

HANDBOOK OF  
SCHOOL MANAGEMENT

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P.W.JOYCE,LL.D.

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A HANDBOOK  
OF  
SCHOOL MANAGEMENT  
AND  
METHODS OF TEACHING

BY

P. W. JOYCE, LL.D., T.C.D., M.R.I.A.

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## PREFACE TO THE FIRST EDITION.

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IN the year 1856, the Commissioners of National Education in Ireland appointed fifteen organising teachers, for the purpose of introducing among the National schools an improved and uniform organisation, and of diffusing among the national teachers a more extensive practical knowledge of school keeping. To fit them more perfectly for their duties, the organisers underwent a preparatory course of instruction and practical training under P. J. Keenan, Esq., then Head Inspector of National Schools.\* Mr. Keenan delivered to them a series of lectures on the science and practice of school management, including, among a variety of subjects, a detailed description of the systems of organisation best suited to the National schools of Ireland. This Hand-book may be said to have originated in those lectures. I have incorporated the most important of them, and they form a very considerable portion of the book. On my own part, I have given the principal results of my experience, both as a teacher and as an organiser.

This book has been written with special reference to the wants of Irish National schools. While carefully avoiding all mere theory, I have endeavoured to render the instruction contained in it plain, useful, and practical; there is not, I believe, a plan, opinion, or suggestion in the whole book that has not been carried out successfully, either by myself, or by others under my immediate direction. The systems of organisation originated in this country in 1856 are here very fully described; it is the duty of every national teacher to make himself thoroughly and practically acquainted with them in all their various details, for they are fast becoming part and parcel of our national system.

I was myself one of the organisers, and I look back with pleasure to a course of lectures that first seriously turned my attention on the science of school management, and to my intercourse with inspectors, managers, and teachers, during the four years that I assisted in carrying out the organisation.

To the reports of the head inspectors, and some of the dis-

\* Now the Right Honourable Sir Patrick Joseph Keenan, K.C.M.G., C.B., Resident Commissioner of National Education.

strict inspectors, I have to acknowledge myself indebted for many useful practical hints.

I have not entered on the question of moral and religious training; for many reasons I have thought it wiser to leave this important part of the subject to others better able to deal with it.

I cannot expect that everyone will agree with all that is put forward in this Hand-book; but I do hope that every national teacher who reads it carefully will find in it a good deal that will be practically useful to him in the working of his school.

*Dublin, February, 1863.*

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## PREFACE TO THE ELEVENTH EDITION.

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THIS book has been re-written and re-modelled in the present edition. For the convenience of students, the Paragraphs have been numbered, and the Questions, instead of being all placed at the end, are inserted after the several Sections, and numbered to correspond with the Paragraphs.

Two new Chapters have been introduced on two very important subjects, which have lately come into prominence among educationists, and which every teacher ought to be acquainted with "Kindergarten" and "The Human Mind in relation to Education." In addition to these, a great many new Sections and Paragraphs have been inserted in various parts of the book, each important in its own way. On the other hand, much of the old matter has been omitted as unnecessary for the present intelligent race of national teachers. It will be found I hope that the book is now fully abreast with the educational requirements of the present day.

*Dublin, 1887.*

P. W. J.

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PART I.

MECHANICAL ARRANGEMENTS.

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CHAPTER I.

HOUSE; FURNITURE; APPARATUS.

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1. SITE AND SIZE OF HOUSE.

1. The site of a school should be **dry and cheerful** and easily accessible to the great bulk of the population. No trees should be allowed to grow very close to the house either in front or rear. Trees too near a building generally render the walls damp ; they are besides gloomy, as they more or less exclude the light and obstruct the view. These are matters of importance in an ordinary dwelling-house, and quite as much so in a school-house.

2. A school should be large enough to accommodate conveniently the largest daily attendance which the locality is likely to furnish. In estimating the proper

attendance of a school the number actually present is what chiefly concerns the teacher.

**3.** It will be seen farther on that the quantity and arrangement of furniture will depend in a great measure on the largest attendance throughout the year.

Experiments have been made to determine the numbers that could be taught in school-rooms of different sizes—that is, the numbers actually present, not the average.

Place 75 children in a room  $31 \times 17$  feet, with proper furniture arrangement: here each child has on the average 7 square feet. It will be at once seen that the business can be carried on, though the room is crowded as much as it can well bear.

Next place 100 children in a room  $40 \times 20$ , which gives an average space of 8 square feet to each child. Same result: room quite full, though business can be well carried on.

In a room  $66\frac{2}{3} \times 30$  feet, it will be found that not more than 200 can be taught, which allows 10 square feet for each.

The result seems strange at first sight; but the reason is plain. For as the attendance increases, the noise and bustle increase in much the same ratio, rendering it necessary as it were to *spread out the children more thinly*. More space must therefore be allowed for each child as the attendance becomes larger.

**4.** Hitherto we have been speaking of one large room; but if there are one or more classrooms the calculation will of course be modified. Suppose there is a classroom for one-third of the children. Then the large room is to be constructed to accommodate two-thirds of the number, according to the above calculation, and let the classroom or classrooms be made large enough for one-third. Thus suppose the principal room is  $28 \times 16$  feet, and that there is a classroom  $12 \times 10$ . Here the large room will accommodate 64 (7 sq. feet to each), and the classroom about 22 (5 or 6 sq. feet to each); so that 86 actually present can well be taught in this school. It is supposed that the whole of the pupils are

never taught together in the large room, though all may be brought into it for other purposes.

**5.** The several attendances calculated above are to be understood as the largest throughout the year. The average for the whole year will be less—say one fourth under: in other words, allowing for reasonable fluctuation, the greatest attendance of the year—which will last for two or three months—may be taken as one-third over the average. From this the space per child in average attendance may be easily calculated.

1. What points should be attended to in choosing the site of a school?
2. What relation should the size of a small school bear to the average attendance?
3. Describe experiments to ascertain space per child required in rooms of different sizes? Results of these experiments? Why is more space required per child the larger the room?
4. How is the attendance in a given school calculated if there is a class-room? How many can be taught in school with principal room  $30 \times 15$  and classroom  $11 \times 11$ ?
5. Allowing for reasonable fluctuation, what relation does the average bear to the greatest attendance? How long does the greatest attendance generally last?

## 2. WALLS; CLASSROOMS; &c.

**6.** The walls of a school should never be less than twelve feet high, and in all moderately large schools they require to be still higher. Anything lower than this will scarcely allow sufficient head-room for ventilation, or wall space for maps. Taking the height of the walls in connexion with the area of the floor it will be seen that there should be at least about 110 cubic feet for each child in average attendance.

**7.** The lower part of the walls should be painted a brown or oak colour to a height of  $4\frac{1}{2}$  feet all round: *painted*, not washed or distempered. Paint is quite hard and smooth, but distemper will rub off and soil the children's clothes. It would be better still if there were a sheeting of thin boards to a height of  $4\frac{1}{2}$  feet, painted oak colour. The rest of the walls should be coloured some light tint, such as French grey, salmon, light buff, or light stone colour. They should

not be whitened, for a white glare is wearying to the eyes.\*

**8.** The best general shape for a school-room is that of a plain rectangle, having the length at least twice the width. In large schools the length might be more than twice the width. Having the room this shape **tends to lessen noise:** a room which is square or nearly so is always noisy.

**9.** In all moderately large schools, *i.e.*, all schools where there is to be an assistant or a monitor, there should be, immediately off the principal room, one or more classrooms to hold about one-third of the pupils. A classroom is a most valuable appendage to a school: it should be furnished with a gallery or with ordinary forms fastened down, so that the pupils may be seated for collective teaching. If a school be large it will be better to have two moderately-sized classrooms than one large one. It will be of advantage if the door leading to a class-room be **glazed at top** so that the teacher can look in at any moment.

**10.** In calculating the size of a classroom for a given attendance, 5 or 6 square feet may be allowed for each child in actual attendance. Thus a class of from 38 to 45 may be comfortably seated and taught in a classroom of  $15 \times 15$  feet. When there is a succession of classes in the same classroom, it should be thoroughly ventilated at the end of each lesson. This can be done by throwing open all windows and doors while the classes are changing.

**11.** If the room be small, the fireplace may be in one end; if large, either it should be in the middle of one side, or there should be two—one at each end. The fuel, whether turf or coals, should never be exposed to view. There should be of course a cell for fuel, but if there be not one, the fuel must be kept in the school-

\* For the manner of painting and distempering walls in various colours, see "Handicraft for Handy People," Chaps. X. and XII.

room. In this case there should be a box or cover of some kind to hide it, as well as to preserve cleanliness.

**12.** In every well-appointed school there should be a cap or cloak room, the best place for which is near the principal entrance, so that the pupils may pass through it to hang up or take off their caps, coats, &c., when entering or leaving the school-room.

A cap or cloak room should be well lighted and ventilated, and should be plentifully furnished with hooks, which should be fastened to rails. The lowest rail may be 2 feet from the floor; the rails may be 10 inches asunder, and the hooks may be placed 7 inches apart. For a girls' school the hooks should be 9 or 10 inches asunder, and the lowest row may be 30 inches from the floor.

The best hooks are those made of wrought-iron—cast-iron hooks are cheaper, but break off easily. Good sized wrought-iron hooks with double points will cost 4s. a dozen.

If there be no cap or cloak room, the rack must of course be placed in the school-room; but it should be in the **darkest corner**, yet so placed as that the children can march past it. It is very easy to cover it over with a cheap curtain so as completely to hide the caps and coats: the curtain can be lifted or drawn aside on a string when the children want their caps.

**13.** There should be if possible a small **lavatory** near the cap or cloak room. This is specially desirable in girls' schools, partly to inculcate general habits of cleanliness, and partly because it is impossible for the girls to keep their needlework clean if they do not wash their hands just before beginning to work. The basins and taps may be of iron: two or three basins will be enough for a moderately large school. There should be of course soap and towels.

**14.** Flags, bricks, tiles, and clay, are all bad materials for the floor of a room. **A boarded floor is the best of all;** no other can compare with it for comfort, warmth, and healthfulness. Boards one inch thick can

be laid on a floor at a cost of 2½d. per square foot for materials alone, including boards, joists, and nails : to this the cost of workmanship will have to be added.

6. Proper height of schoolroom walls ? Why ?
7. Best colours for walls—both upper and lower part ?
8. Best general shape of room ? Why is this long shape best ?
9. What classroom space is required in a school ? Use of classroom ! How should classroom be furnished ?
10. In a classroom what space is allowed for each child ? What precaution as to ventilation in a classroom ?
11. Position of fire in small room ? In large room ? How keep fuel ?
12. Best place for cap or cloak room ? Describe construction of rack and best kind of hooks ? If cap and cloak rack be in schoolroom how should it be placed and hidden from view.
13. Necessity of lavatory ? What things are required in it ?
14. Best kind of floor ? Cost of materials for boarding floor ?

### 3. CEILING; WINDOWS; OUT-OFFICES.

**15.** If the house be of only one story, comfort and health both require that the room be ceiled. If the roof be slated or tiled, it is subject to all vicissitudes of temperature in the absence of ceiling—it is miserably cold in winter, and intolerably hot under the sun of summer.

A thatched roof overhead presents a very unsightly appearance indeed, and renders the preservation of cleanliness a difficult task ; it is just as easy to ceil a roof of this kind as one that is slated. If the ordinary plaster ceiling be thought either too heavy or too expensive, the room may be covered over very neatly, and without much cost, with a sheeting of thin boards. Any common carpenter or any good amateur workman can do this. For detailed instructions, see "Handicraft for Handy People," Chap. IX.

**16.** It must be borne in mind, though it is frequently forgotten in practice, that a house is furnished with windows for two purposes—to give light, and to afford ventilation. For the latter it is quite necessary to have them in at least two opposite sides of the room. They should be raised at least five feet from

the floor, so that they may be beyond the reach of idle children to gaze through or break them, that sufficient wall space for blackboards and tablets may be secured, and that the currents of air may pass over the heads of those who are in the room. If the windows be less than five feet high, the lower panes should be **muffed or screened**. Both the upper and the lower sashes should be made to open for purposes of ventilation ; the simplest and cheapest contrivance for opening and closing being the common side pulleys. If the windows be only on one side, they should be so placed that when the children are sitting in the desks, the light will come **from the left**. A back light is bad, for the children have to work in shadow ; and a front light is worse, for it distresses their eyes.

There are many other special contrivances for ventilation, which I do not think it necessary to describe : they may be found in works on architecture, and every architect understands them.

**17.** No part of the premises requires more care, in regard to position and construction, than the out-offices. If the school is mixed, *i.e.*, attended by both boys and girls, or if a boys' school and a girls' school are on the same grounds, there should be separate closets at the opposite sides of the playground. They should be in a retired part of the grounds—not prominent as they sometimes are—and they should be so placed that the approach to each should not be seen from the opposite side. If the two closets happen to be placed next each other—which is most undesirable,—the next best thing to do is to separate them completely by a high wall, which should run down to the foundation, so as to leave no communication, even by drain pipes.

The walls of closets should if possible be made of light coloured glazed brick, which it is impossible to write on, and which is besides the cleanest of all materials.

There ought to be an ample supply of water so that the closets can be flushed every day ; and they ought to

be thoroughly cleaned out at regular intervals. One of our inspectors suggests that some of the sickness prevalent in schools may be traced to badly kept closets.

I am anxious to impress on teachers, especially young teachers, the absolute necessity for exercising, at all times, over the closets, the most careful supervision.

**18.** The teacher should take the greatest care that the school is ventilated and kept at a proper temperature. Bad ventilation is slow poison to both children and teacher ; and besides neither teacher nor pupils can work with life or spirit in a vitiated atmosphere. The temperature should be from  $55^{\circ}$  to  $60^{\circ}$ , and every school should have a small thermometer to regulate this.

15. Why should a room be ceiled ? How is a thatched roof ceiled ?

16. Double use of windows ? For ventilation how should windows open ? Height of windows from floor, and why ? Remedy for windows too low ? From what direction should light fall ? Evil of back light ? Of front light ?

17. In a mixed school where should offices be placed ? What precautions should be taken ? If closet for boys and that for girls be placed near each other what is to be done ? Best materials for walls ? What precautions are necessary as to cleanliness and supervision ?

18. Necessity for ventilation ? Proper temperature of a school.

#### 4. CONSTRUCTION OF DESKS.

**19.** The desks are the most important part of the school furniture, for on their construction depends in a great measure the children's progress in writing, as well as to some extent their comfort and health. No one can make a desk who is not acquainted with the proper proportions of the different parts. This knowledge every teacher should possess ; and in this, as well as in the management of furniture generally, he should be engineer—should be able to give without hesitation all necessary directions to the workmen.

The part of the desk that it is most important to make of the proper height is **that next the children's breasts** which should regulate the height of all the rest. A good standard height for this part is 27 or 28 inches—no matter what the slope may be.

The slant part should be very nearly level; the whole amount of the inclination should be not more than an inch and a quarter. The edge next the children's breasts should be not more than 11 or 12 inches perpendicularly over the form (which allows for the height of the latter, about 16 inches); if it be more than 11 or 12 inches the children's elbows are raised too much, which interferes with the writing. The worst fault of a desk is to have this dimension in excess. The seat should be of such a height that when the children are seated their feet rest on the floor. If the forms are too high for this there should be a foot board.

In some schools desks are made of different heights for children of different ages. If this plan be adopted, the desks may be made 25 inches high (next the breast) for little children of 7 or 8, with seats of  $14\frac{1}{2}$  inches; and they may be made of different heights from that up to 29 inches. But in most schools it is found more convenient to have all the desks the same height—27 inches or thereabout.

Desks are now generally made with one continuous slope which may be 13 or  $13\frac{1}{2}$  inches wide—no horizontal part at top, which, with desks of such small slope, is not wanted.

For the form of desk here described—so nearly level—no beading is required along the edge; and the children's hands will have more freedom without it.

**20.** Horizontal distance between the desk and its own seat 3 inches; width of seat from 7 to 9 inches. The whole breadth of the desk therefore, supposing the form to be 8 inches, is about 2 feet. In a female or mixed school the distance between the desk and its seat should be not less than four inches, for the girls have to pass between.

The walking space behind the seat—between it and the next desk—may be about 10 inches; so that when several desks are placed one behind another it may be calculated that they will occupy about 2 feet 10 inches each, allowing for walking spaces and all. Thus seven desks

arranged one behind another will occupy in round numbers 20 feet of the school-room.

**21.** There should be apertures for slates so made that the latter will rest perpendicularly when in their places; they should not hang by strings from buttons or nails, but should rest on a solid support set firmly at bottom. About two inches of the slate should project from the top, and there should be a slate aperture for every 18 inches in length.

The front board which confines the slates should be slightly inclined from the perpendicular, as this gives the desk a more graceful appearance, and it should project about half an inch over the top.

A groove rounded at bottom should be sunk all along at top between the ink-wells to hold pencils and pens.

There should be an ink-well for every two pupils, or if thought necessary, one for each. They should be kept corked up or covered in some way, otherwise the ink will be spoiled with dust, and wasted by evaporation.

**22.** The best supports for desks are iron standards, which can be procured at any iron foundry; they should be made so as to include both desk and seat; when ordering them take care to state the proper height and slant. Each standard of the height described here, and of moderate weight and strength, will cost about 4s. 0d. Two standards will be enough for a desk of nine feet long or less: but for any greater length three will be required. Starting from this, it will not be difficult to calculate the cost of a number of desks of a given length; for the quantity and price of the timber and the expense of workmanship are easily ascertained.

Having calculated the probable expense of home-made desks, it will be well, before proceeding further, to obtain an estimate from some of the city desk-makers; for it often happens that desks can be procured in this way as cheaply as by buying the materials and getting them up in the locality; and the desks are

sure to be better shaped and finished when they come from the hands of skilled workmen than when they are put together by carpenters not accustomed to that sort of work.

If iron standards cannot be had, or if thought too expensive, timber feet will answer very well.

Desks are sometimes furnished with a rail behind the seat, to serve as a support for the backs of the children, who sit in them as comfortably as on chairs. In any school where the children sit much, especially in girls' schools, this is a very desirable construction. Desks of this kind can be procured from the makers as readily as any others, but they are somewhat more expensive. The standards for the desks are in this case usually separate from those for the seats; and the latter have a branch extending upwards to which the back rail is screwed on. If these desks be made up at home care should be taken to give very precise directions when ordering the stands from the foundry.

Several other kinds of desks, more or less elaborate in construction, have lately come into use, as for instance those with flap tops hinged; but they are commonly too expensive for the general run of primary schools, and are besides not much more useful than ordinary desks, except for special purposes. Besides if desks are in any degree complicated they are sure to go out of order. At any rate it is not necessary to describe them here, as detailed descriptions, accompanied with diagrams, can be obtained from the makers. For what are called dual desks see page 26. There are special desks for kindergarten teaching in infant schools, which will be described further on.

In calculating the number of pupils a desk will accommodate, a space of 18 inches is commonly allowed for each; thus a desk 10½ feet long will accommodate seven pupils, or even more at any subject except writing. For length of desks see next chapter.

**23.** Desks should be always **fixed down to the floor.** When they are large and heavy indeed, and

when desk and form are joined together as one block, they are pretty steady, even without being nailed down, especially when the children are sitting on them; but still they are constantly shifting their position. Besides, heavy furniture of any kind that is unfixed and constantly moved about becomes disjointed and rickety in a very short time; if it be fixed it will last four or five times as long.

It is easy enough to fasten desks on a boarded floor: any teacher able to use a hammer or a turn-screw can do it for himself. If they're furnished with *soles*, or horizontal pieces at bottom on which they rest, nothing is required but the driving of a few long nails or screws. But if there be no soles, that is when the desk stands simply on its legs like a chair or table, let a sole be nailed on each pair of legs, up against the bottom, and not against their sides. This sole is to be a little piece of board, 4 inches broad, an inch and a half thick, and so long that it will extend an inch or so beyond the legs. The desks are then to be placed in proper position, and the soles nailed or screwed down to the boards. The seats, if separate from the desks, can be fastened in the same manner.

19. Why is the shape of desks so important? In the construction of home-made desks, what knowledge should the teacher possess, and what should he be able to do? What part of a desk should regulate all the rest as to height? Give the three principal vertical dimensions of a well-shaped desk. Which is the most important, and why? Best shape of top?

20. Give all the principal horizontal dimensions. How much horizontal space will eight medium-sized desks occupy?

21. Describe the construction of slate apertures, front board, and pencil groove. Arrangements for ink.

22. Best standards for desks. Number and cost of standards for a desk eleven feet long. Describe the construction of a desk with support for back.

How many children can write in eight desks of ten and a half-feet long?

23. Evil of leaving desks unfastened. Describe the way to fasten desks.

##### 5. TABLET-RAILS; GALLERIES, &c.

**24.** The whole of the available wall space should be furnished with tablet-rails, separated by intervals of 2 feet, the lowest  $4\frac{1}{2}$  or 5 feet from the floor: there

might be two, three, or more rails, according to the height of the walls. They will be very useful for hanging maps, tablets, pictures, &c., which without them are too often seen hanging in all possible directions, without the least attempt at arrangement, while the walls become wrecked with nails. They are not expensive, and if not on the walls from the beginning, they may be made by any carpenter in the following manner :—A  $\frac{3}{4}$ -inch board  $\frac{7}{8}$  inches broad is to be cut longitudinally into three ~~sips~~; each of these when planed will be  $2\frac{3}{4}$  inches ~~wide~~. The edges intended to be turned outwards should be either bevelled or moulded.

The rails should be fastened up so as not to wreck the wall ; this can be done by either plugging the walls, or by small holdfasts or wall-hooks, assisted by eight-penny nails : but plugging is best. They should be painted some dark colour : an oak or dark brown will answer very well. Once a school is furnished with rails, a nail should never be seen in the wall ; the tablets and pictures should be hung only from them, and should of course be dispersed along the walls according to some definite arrangement. Small hooks or even common nails may be employed for this purpose ; but brass-headed nails are the best and neatest ; and as they are not expensive, they should be procured if possible.

**25.** A gallery consists of several seats, ranged parallel one behind another, and each one rising higher than the one in front. It is a most convenient place for simultaneous teaching, the teacher standing in front, and the pupils sitting in a solid square before him. As a general rule, not more than from 25 to 40 children should be taught together in one gallery ; it will be unnecessary therefore to make it larger than will be sufficient to accommodate this number.

A small gallery of five seats, each nine feet long, will give accommodation to 35 or 40, as the children can sit very close. Each seat may rise from 6 to 9

inches higher than the next in front; each should be separated from the seat next behind it by a walking space of at least 15 inches; that is, allowing for the seat 9 inches, seat and walking space will occupy a horizontal width of at least 24 inches. The last seat, which is usually against the wall, should be 12 inches wide. A gallery of five seats will therefore extend at least 9 feet from the wall. If the sides of the gallery do not rest against the walls, they should be guarded by railings to keep the children from falling. At each side there should be left a little gangway for the children to pass, which, if space be an object, may be provided with hinged seats.

**26.** A gallery is usually constructed in a separate class-room, and this is far the best place, if such a class-room be suited to the circumstances of the school. If there be no class-room, a small gallery may be placed in the school-room, provided of course there be sufficient space. It should be as far from the draft circles as the school-room will permit; and if possible it should be so placed that the children when sitting on it shall not have their faces turned towards the general school. For example, if the school-room be long and narrow, the gallery might be placed at one end, against one side wall, the children being turned towards the other side wall. This arrangement, though not absolutely essential, tends very much to lessen noise.

**27.** I have heretofore been speaking of *raised galleries*—that is, having seats rising in tiers one over another. They are always more or less costly, and are therefore not within reach of the poorer class of schools. A very simple, and at the same time a very useful gallery may be made merely of **common forms**. This scarcely entails any expense, and may therefore be procured by every teacher, as there is generally a sufficient supply of forms in schools.

Let four of these be got, each eight or nine feet long, and of the respective heights of 13, 15, 17, and 19 inches. Let the lowest one be fastened down to the

floor parallel to the wall, and about  $3\frac{1}{2}$  feet from it; the next in height is fastened down behind this, leaving between it and the other a sitting and walking space of 15 inches. Let all be placed in this manner, each rising 2 inches over the next in front, and they will form a gallery which, if not very ornamental, is just as useful as if it were raised. The children when sitting on it, look towards the wall, which arrangement has the double advantage of lessening the noise, and of isolating the children to some extent from the rest of the school. The space in front, between the lowest form and the wall, should be not less than  $3\frac{1}{2}$  feet, as this will just allow a map or a blackboard to hang on the wall, without the intervention of an easel.

If the forms cannot be conveniently made of different heights, as described here, they will answer very well even though they are all of the same height. In all cases the seats of a gallery made in this way should be **fastened firmly to the floor.**

**28.** There should be convenient press accommodation for the books and requisites, as also for the charts, globes, apparatus, &c. The presses in schools are usually unnecessarily deep, and are not furnished with a sufficient number of shelves; thus they afford only very poor accommodation in proportion to their bulk.

24. Describe the position and construction of tablet rails. Mode of fastening up, colour, hooks?
25. Describe the construction of a small gallery to hold thirty-five children.
26. Best place for a gallery? A gallery in the principal school-room—what precautions as to its position? What should be the position of the children when sitting on it?
27. Describe the construction of a simple inexpensive gallery. Give length and number of seats for thirty children, and state how such a gallery should be placed.
28. Press accommodation required! Common fault of presses!

## 6. SCHOOL APPARATUS.

**29.** "No school can be regarded as in a fit working condition in which there is not a **blackboard for**

**every draft** under tuition, and a large one for the use of the division in the desks. For instance, if a school consists of two divisions, and each division of four drafts, there will then be required four small blackboards for the drafts, and one large one for the division in the desks."

In our list of school requisites there are blackboards of various sizes and constructions, out of which the teacher will be able to select what best answers his own school. The most generally suitable for draft teaching however are those of  $30 \times 24$  inches not framed. The teacher should furnish these with rings or cords for suspension, and they should be permanently hung up before the draft circles. There should be one blackboard with a stand, chiefly for use in front of the desks. To each blackboard there should be attached a wiper of some sort, such as a bundle of quills, a goose wing, a piece of cloth or sponge, &c. There is now a very good wiper on the List, price 5*½*d.

**30.** There should be a short pointer hanging by a looped piece of cord at the centre of every circle, for various teaching purposes, such as the tablet lessons of first class; and for map teaching, &c., there should be a few long pointers, which might be kept in the press when not in use.

An easel is a most useful article; every teacher should endeavour to have one at least. The best on the list, as well as the best value, though the most expensive, is the "Framed easel, six feet (long), double leg."

For the purpose of teaching the very young children elementary computation, the school should have at least one arithmeticon. Any of those mentioned (under the name of "Arithmetic frames," or "Hand frames") in the Catalogue will answer very well.

**31.** There ought to be in every school, even the smallest, one large map of the world, one of each continent, one of Ireland, and one of the British Islands. Beyond these, the more large maps the school can afford the better. Johnston's school maps ( $27 \times 23$

inches) are extremely well suited for small schools; they are very distinct, and contain almost as much as the large maps. Bett's outline maps are most useful. Among atlases, those by Philip and Son are well arranged and clear, and the small one ("Standard Atlas") marked 3d., is extremely well adapted for general school use.

**32.** A good supply of slates in a school is absolutely essential. They should not be the private property of the pupils, but should be supplied from some school fund, or by the manager, teacher, or pupils, and they should always remain in the school-room: they are so cheap as to be within reach of the poorest school. There should be at least as many slates as pupils, since there are periods during the day when all may be using them; and the supply if necessary might be kept up by obliging any pupil who breaks one to pay for it.

If the common ruled slates be cut in two across the middle—a thing very easily done—the little half-sized slates thus formed will answer quite well for the arithmetical work of the first and second class children. In some respects they are better than the full-sized slates. They are not nearly so liable to be broken; they are more manageable for little children, and are quite large enough for their short exercises; and lastly, they are of course only half the expense.

I do not think it necessary to enter more minutely on this subject, as our List of Books and Apparatus speaks for itself.

29. How many blackboards should be in a school in proportion to attendance? Suitable size of blackboards for draft teaching? How should they be hung?

30. What pointers and easels and ball-frames are wanted?

31. What maps should be in school?

32. How many slates should there be? To whom should they belong? How supply little children with small slates?

## CHAPTER II.

## SYSTEMS OF ORGANISATION.

## 1. ORGANISATION AND PERPETUAL EMPLOYMENT.

**33.** In some works on Education **organisation** is understood to include all the mechanical arrangements of the school from the building to registration. In this book it is used in a much narrower sense, to denote the proper mode of partitioning the school children into two or more divisions, the division of the schoolroom into a corresponding number of compartments with suitable furniture, the successive movements of the divisions from compartment to compartment, and the proper distribution of the teaching staff.

**34.** One main object of every system of organisation is to enable the teacher to carry out the principle of **perpetual employment**, which may be thus enunciated :—“ Every child in the school should be engaged at some useful employment at every moment during the entire day.”

The teacher must direct his energies to accomplish this : if he succeeds the school will work well, and the children, being kept from idleness, will be kept from mischief and noise : if he fails he will fail as a teacher.

There are three primary systems of organisation that are found generally useful and suitable to Irish National Schools—the Bipartite, the Tripartite, and the Quadri-

partite; and a school may be managed in accordance with any one of them, or a mixture of two may be adopted. I shall now proceed to describe these three systems, with the furniture arrangements suited to each.

33. Define organisation.

34. Main object of organisation? Enunciate the principle of perpetual employment. Name the ordinary systems of organisation.

#### BIPARTITE OR TWO-PART SYSTEM.

#### 2. DESCRIPTION; DIVISION OF PUPILS.

**35.** When the whole of the pupils are divided into two parts, one division being engaged at some desk lesson, while the pupils of the other division stand round the room in drafts at an oral lesson, and when the two divisions change places and subjects at the end of each lesson during the entire day ; this is what is called the bipartite or two-part system of organisation. This system is very suitable for the generality of small national schools, and it will be necessary therefore to enter somewhat into detail regarding the manner of carrying it out.

**36.** By the word **class** is meant here all the children who read the same class-book. By **draft** is meant all the pupils who stand together at the same circle to read the same lesson : there may be several drafts in the same class. Ten or twelve pupils will be quite a sufficient number for each draft, and some drafts might be smaller.

The chief reason for limiting the drafts to this number is, that at the reading lesson each individual pupil may have sufficient time for reading ; if the draft be very large, it will be impossible to accomplish this, and at the same time to explain and examine on the subject matter. By limiting the number to ten or twelve however it is not meant that the drafts are to be always

kept apart. It is generally necessary to separate them at reading, and at some other lessons; but there are certain subjects, such as geography, grammar, some portions of arithmetic, &c., in which two or more drafts may be joined.

**37.** The two great divisions of the pupils must be **nearly equal** in numbers; or if there be any inequality, the junior division (as the children are smaller) may be slightly in excess of half. No fixed rule can be laid down as to the particular drafts that compose each, as this depends entirely on the school. With our present classification, the junior division, in many schools, will consist of the first and second classes, and the senior division of all the others; and it would be desirable that such a symmetrical arrangement as this should be carried out. But it is not necessary. If for instance the first and second classes form considerably *more* than half the school, the highest draft of second may be included in the senior division; if on the other hand these classes be much *less* than half, the lowest draft of third may go with the junior division.

**38.** There are many schools, especially in rural districts, in which the relative numbers in the different classes are subject to much variation according to the season. In the winter months the grown-up pupils attend, while the young children are kept at home by the severity of the weather: in summer it is the reverse; the little ones attend, and the elder pupils are employed at home. The partition made in summer, therefore may not answer in winter, and the teacher will be careful to restore the equality of the two divisions, by transferring, at the proper time, a draft from one to the other. Such a change as this should not be frequently made—not oftener than **twice a year** as it always acts more or less injuriously on the discipline of the school.

35. What is the Bipartite System? Describe it.

36. Define "Draft," "Class," and "Division." How many should be in a draft? Why this number? When must drafts be taught separately, and when may they be combined?

37. In a school of seventy actually present, give what you think would be a fair number for each of the classes; and state what classes and drafts should form junior division, and what senior.

38. If the two divisions become very unequal, according to season, how is this remedied? What check should be placed on this change?

### 3. DRAFT SPACE AND CIRCLES.

**39.** The space for draft teaching should be along one or more of the walls; this is far the most convenient place, for on the walls can be suspended the chief teaching appliances, such as maps, tablets, black boards, &c. Besides, a class standing next a wall is to some extent isolated from the rest of the school and will make less noise.

**40.** The particular side wall to be left open for drafts depends on the circumstances of the school; it is often for instance determined by the position of the door; but generally speaking that one should be chosen which is best illuminated and least interrupted by windows and fire-places. This space should be so broad that when the pupils are standing at the circles there will be room for a person to pass freely between their backs and the desks without touching either. If the ends of the desks be **7 feet** from the wall, it will be sufficient to allow this; and in many small schools  $6\frac{1}{2}$  feet will be enough. If the space be narrower than this there will be no room to pass behind the children.

**41.** It may be stated generally that the width of the draft space ought to be in some degree proportioned to the width of the room; thus if the room be from 14 to 18 feet wide, the draft space may be 7 feet; 8 feet for a room of 20 feet, and so on. In very large schools it might be left broader.

**42.** There must be as many draft circles as will accommodate one division—that is at least half the pupils—at once. The number therefore will vary with the attendance. While on the one hand there must be a sufficiency of desks, on the other hand

much as possible of the walls should be left free for draft teaching. In small schools it is usually sufficient to leave a space along one side wall and at one end. In a large room three walls may be necessary; and if the room and the attendance be both very large, there may be circles all round.



**43.** The diagram (fig. 1) will show how circles are to be made. Suppose AB to be a portion of the school wall. Take a point O for the centre, about 18 inches from the wall, and with a radius of three feet describe the semicircle CDE, and continue the ends to the wall by the perpendiculars CF and EG. The circle so marked, which may be regarded as of moderate size, will hold ten or twelve pupils.

FIG. 1.

The circles ought to be placed as far apart as the draft space will allow, as this tends greatly to lessen noise; the distance between two adjacent circles (that is, GI) should never be less than  $2\frac{1}{2}$  feet, and should be if possible 3 or 4 feet. To determine the best places for them is often a matter requiring some thought. For the purpose of teaching large classes together, there ought to be two or more large circles pitched among the smaller ones. Each of these should have a radius of five or six feet, and may be placed as in the diagram, or in any other position that may be found convenient.

**44.** Various materials are employed for marking circles permanently. Some use strips of brass; others brass nails with flat heads, driven closely all round, the heads being sunk into the boards. This plan appears on the whole to answer better than any other. If brass nails or strips be thought too expensive, common black paint will answer very well.

39. Where should the draft space be and why?  
 40. Which wall, or walls, are generally best? What is the test as to whether draft space is wide enough?  
 41. Proper width of draft space for school-room of 16, 18, 20, and 24 feet wide, respectively?  
 42. How many draft circles for a school of suppose 85 maximum attendance?  
 43. Draw diagram representing two adjacent draft circles, and put in all necessary measurements.  
 44. Describe the way of making draft circles, and the several materials used for marking them.

#### 4. NUMBER AND LOCATION OF DESKS.

**45.** Where the bipartite system is adopted, as there is never more than a division sitting at any one time, the number of desks may be limited if necessary to as many as will accommodate a little more than half the greatest attendance expected. Any one of the four following sets of desks will answer for a maximum attendance of 75, the particular set to be chosen being determined chiefly by the shape of the room:—

5	desks	of	12	feet	long	=	accommodation	for	at least	40	pupils.
6	"	9	"			=	"	"		36	"
8	"	7½	"			=	"	"		40	"
10	"	6	"			=	"	"		40	"

**46.** In some Continental countries the pupils are taught all their lessons sitting; they sit in fact as a general rule the whole day, and the desks are arranged in groups to facilitate this.

We find by experience that in the schools of Ireland at least, it is not a good plan to keep the pupils constantly sitting; that a regularly recurring alternation of position from sitting to standing, and *vice versa*, at short intervals during the day, with corresponding changes of subjects, while increasing the healthfulness of school employment, imparts an agreeable variety to the daily routine, and infuses a spirit of activity, life, and cheerfulness into the working of the school.

Keeping out of sight for the present the consideration of galleries, we find too that instruction in those subjects requiring direct oral teaching is given with most life and effect when the pupils are standing in a circle round the teacher. I shall therefore lay it down as a general rule, that the best way to arrange desks is the old Lancasterian plan of placing them across the room, the whole group forming a rectangle : always remembering that there must be sufficient space left along one or more of the walls for draft teaching.

45. In providing desks and draft circles what attendance do we take into account? Give examples of desks for an actual attendance of 80.  
 46. What in a general way is the best plan of arranging desks?

### 5. PLANS TO SUIT THE BIPARTITE SYSTEM.

**47.** If the desks are to be placed across according to the above plan, their length will depend on the **width** of the room, and their number in the **length** of the room.

I will now give a few particular examples.

**48.** Let it be required to furnish a room 40 feet long by 20 in width. Allowing 9 square feet for each child, this room will give accommodation to 90 average attendance but to provide for fluctuation, we shall calculate on an attendance of about 120. Here the best way to arrange the desks is to place them across, so near one side wall as to leave a walking space 18 inches wide, and leaving draft space along the opposite wall and at one end.

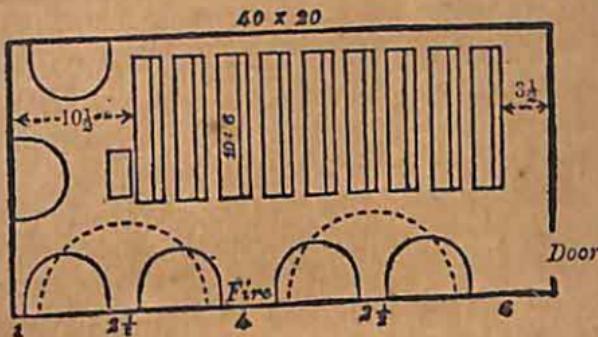
In all large rooms like this a walking space at least 18 inches wide should be left along one side wall.

Suppose the draft space to be 8 feet broad : this will allow the desks to be  $10\frac{1}{2}$  feet long, and each will hold therefore seven pupils. Nine of these desks will be sufficient, on which about 60 pupils can sit, and which will occupy about 26 feet of the length of the room.

If the last desk be placed with its seat  $3\frac{1}{2}$  feet from the end wall (for the reason of this, see description of fig. 9 farther on), a clear space of  $10\frac{1}{2}$  feet will be left at the other end. There ought to be six circles, as each division, when the attendance is at its maximum, may contain six drafts; for these the present space will be amply sufficient.

The following is the plan of the room according to these directions: observe the manner in which the large circles are placed among the others.

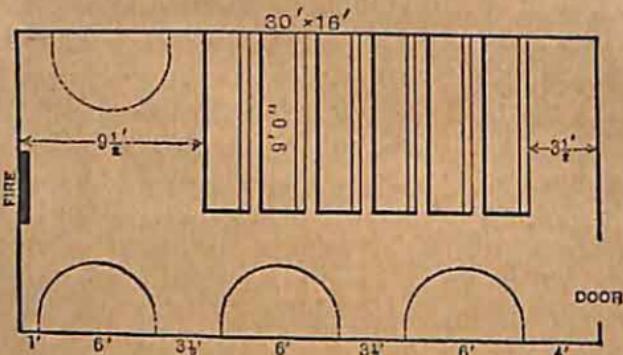
FIG 2.



**49.** As a second example, let the dimensions of a room be  $30 \times 16$  feet; this will accommodate an average attendance of 53, and the following plan (fig. 3) provides for 70 actually present.

In this small school it will be better to put the desks up against one side wall, leaving no walking space. This will allow the desks to be 9 feet long, leaving draft space of 7 feet along one side wall. Six desks will be sufficient; these will occupy a space of 17 feet, which will allow  $9\frac{1}{2}$  feet at the fire-place end and  $3\frac{1}{2}$  feet at the other end. The desks will hold 36 children, and 70 can easily be taught with this arrangement.

FIG. 3.



**50.** If the school-room be very large, it may be more convenient to place the desks in the middle, leaving draft space all round. And if even with this arrangement the desks would still be very long, there might be a passage through the middle. Suppose the desks to be 12 feet long and the school 25 feet wide; here there may be a draft space along both side walls, but the desks should not be placed exactly in the middle, as this would leave each space only  $6\frac{1}{2}$  feet wide; better to leave 8 feet at one side, and 5 at the other.

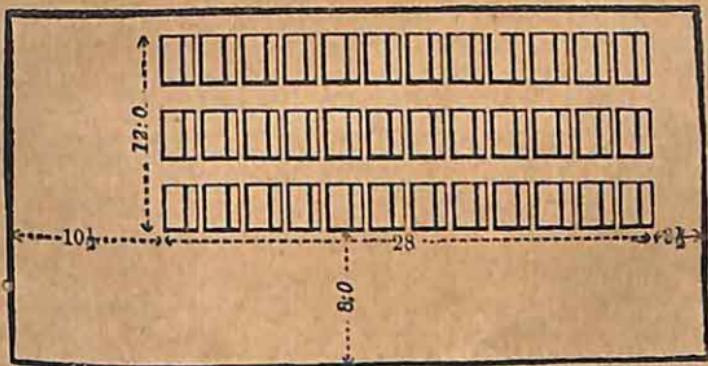
**51.** There is another desk arrangement, seldom met with in Irish National Schools, which is a little more expensive than those already described, but which will be found extremely convenient when it can be adopted. Among other advantages, the children when sitting have a support for their backs, the same as if the desks were furnished with back-rails. And it will be seen by an inspection of the diagram that it affords great facilities for supervision, for the teacher can reach each individual pupil without having to walk behind the backs of the others.

The desks are from 3 ft. 4 in. to 3 ft. 6 in. long, and each holds just two pupils; they are fixed one behind another quite close, no walking space being

necessary between them, as in the ordinary arrangements. Each desk is to be so placed that its front-board will serve as a support for the backs of the two pupils sitting next in front. Care must be taken that it be neither too close nor too far away. The best position must be found by trial, i.e., by actually sitting down and adjusting the desk behind to the proper distance. A small interval will be necessary—two, three, or four inches, according to the shape of the desks. The front-board of each might be slightly inclined in a way the reverse of the inclination recommended in paragraph 21, so as to accommodate the shape to the backs of the children. Each tier of desks must be separated from the adjacent tier by a walking space of at least 18 inches; and a like space is left next the wall.

The following plan will speak for itself. The room is supposed to be 42 feet long by  $21\frac{1}{2}$  feet wide; and the circles are to be laid down as in fig. 2.

FIG. 4.



If anyone preferred the desks turned towards the side of the room, the arrangement would present no difficulty; in the present room there would be in this case, 35 desks, i.e., seven tiers of five each. With the desks in this position, there is still greater facility for supervision than in the preceding arrangement.

Each of these **dual desks** as they are called, will of course require two standards, and the increased number of these that will be required is the chief cause of the additional expense. But I **strongly recommend this dual desk arrangement** wherever the expense is no obstacle.

**52.** Whoever understands the preceding desk arrangements will find no difficulty in arranging desks of any length in a room of any dimensions. I shall only remark that where the length of desks is not well suited to the width of the room, the teacher may find it necessary to place them along the length of the room instead of across, an arrangement which will be found to answer very well.

47. When desks are placed across the room, on what does their length depend? On what their number?
48. Show by a diagram, putting in all necessary measurements, the arrangement of desks and circles for bipartite organisation in a school-room  $40 \times 20$ ; greatest attendance 120.
49. Draw a diagram for a room of  $30 \times 16$ ; greatest attendance 70.
50. Draw a diagram in like manner for a room  $51 \times 25$ ; greatest attendance 140; desks 12 feet.
51. What is the "dual desk" arrangement? What are its advantages? Draw two plans with dual desk arrangement for a school-room of  $42 \times 21\frac{1}{2}$ , in one, desks across, in the other lengthwise.
52. May desks be placed otherwise than across the room? Show how

#### 6. USE OF GALLERIES IN BIPARTITE SYSTEM.

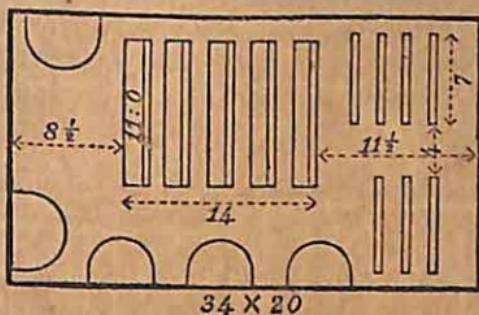
**53.** In the bipartite system the pupils of one division are standing round the room at an oral lesson, while those of the other division are supposed to be sitting in desks at silent work. For reasons which will appear in the next chapter however it will be sometimes necessary during the day that both divisions (one standing and the other sitting) be receiving oral lessons at the same time.

As the desks are not well adapted for oral instruction, it will be exceedingly convenient to have one or two small galleries—which may be made with common forms—that will hold one division, while the pupils of the other are standing round the room. If there

be no separate class-room for the purpose, the gallery may be placed in the school-room itself.

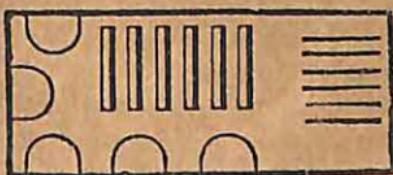
**54.** Some plans shall now be given showing the manner of arranging desks with one or more galleries all in the same room. Where there are to be two galleries in the school-room, the arrangement shown in fig. 5 will answer well.

FIG. 5.



In the next example there is one gallery, consisting simply of 6 forms **all the same height**, placed as in fig. 6. The children sitting on this gallery may be taught together, in which case their faces are all turned the same way. Or they may be taught in two sections, one section turned in one direction, and the other in the opposite direction. This is a very useful form of gallery.

FIG. 6.



**55.** The schools represented in the next two figures are types of a very numerous class of our rural schools. In the first the dimensions are supposed to be 28 X 16 feet; and with the present furniture arrangement it will accommodate an actual attendance of 60. There

is barely room for one little gallery of two seats, but it has in reality three, for the seat of the last desk can be used as a third. From 20 to 24 children can be seated at one lesson in this little gallery.

The school represented by the second diagram (fig. 8), is larger, its dimensions being  $38 \times 18$  feet. Here four seats are put in behind the desks, which, with that of the last desk, constitute a gallery of five seats, capable of seating 40 children, whenever it may be found necessary to take so large a number at one lesson. With the furniture arrangement here adopted, 80 or 85 children can be accommodated in the school-room, but not more.

FIG. 7.

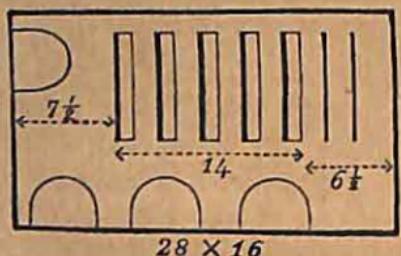
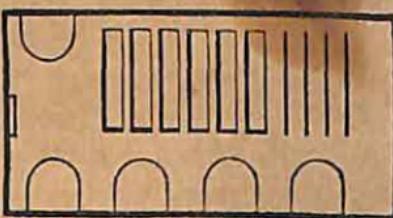


FIG. 8.



The furniture arrangements represented in these two figures are particularly recommended for their simplicity, their usefulness, and their very general adaptation to the common national schools of this country. Even one form placed behind the last desk, if there be not room for more, will be found extremely useful.

If there is only one gallery, the best place for it is generally at the back of the desks.

The galleries have been all along supposed to be in the school-room. It will greatly enhance their value if they be in one or more class-rooms; but in this case the arrangement of furniture is so simple as to need no special description.

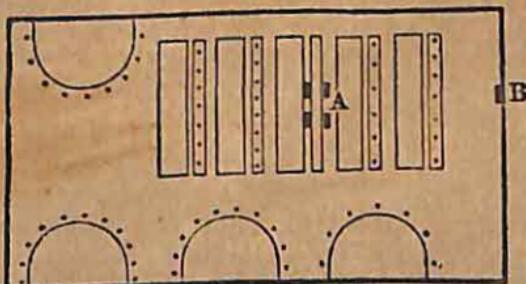
**56.** If a school-room admit either of no gallery at all, or of only one, it will sometimes be necessary, as already remarked, to teach a lesson on some subject

requiring direct oral instruction to a class of children sitting in desks. We shall suppose this lesson to be geography, but our arrangements will answer any other subject.

The best way to arrange the pupils in the desks is to place them with their faces turned contrary to the usual direction, hanging a map immediately before them. It will be better that those receiving the same lesson occupy **only two—certainly not more than three—desks.** Even with three, those who sit on the third are too far from the map and from the teacher, and it will be found difficult to keep up their attention, especially as active teaching is going on at the same time in different parts of the room. A class of about sixteen can sit in two desks of 9 feet long. The map must not be placed less than 3 or more than  $3\frac{1}{2}$  feet from the first rank; it may be hung on an easel placed with its legs on each side of the seat of the next desk.

If there be no gallery, and if the division at an oral lesson in the desks be divided into two parts, the following will be the disposition of the school; the children are represented by dots. At A is placed the easel for one map or black board, its four legs shown by four little black squares. The second map is hung on the wall at B, and for this purpose the seat of the last desk is placed within about  $3\frac{1}{2}$  feet of the wall. This arrangement of pupils will answer for the schools planned in figs. 2, 3, and 4.

FIG. 9.



53. Show the utility of one or two small galleries in bipartite organisation. Where may they be placed?

54. Show by a diagram the furniture arrangement for bipartite organisation when there are two small galleries; also with one small gallery which can be used as two.

55. Draw a diagram with all measurements inserted, showing furniture arrangement in a room of  $37 \times 18$ ; walking space along side wall; with a form gallery of three seats behind the desks. If there is only one gallery where in general is the best place for it?

56. If an oral lesson be given to children in desks, how are they to sit? How many desks at most should those receiving the same lesson occupy? How must map be placed? Show disposition of school by diagram.

#### TRIPARTITE OR THREE-PART SYSTEM.

#### 7. DIVISION OF PUPILS; FURNITURE ARRANGEMENTS.

**57.** The bipartite system and the house arrangements suited to it have now been fully detailed; a much shorter description will be sufficient to render intelligible the tripartite system and the manner of arranging and carrying on the school in accordance with it. The pupils, as the name implies, are divided into three parts, which may be called **junior**, **middle**, and **senior**, division, respectively; at each lesson during the entire day, the three divisions are engaged at lessons in the three compartments of the school, **floor**, **desks**, and **gallery**; and at the end of each lesson they all change places and subjects.

**58.** This system is not so simple as the bipartite, and it is not suitable to small schools; but where there is an attendance of 70 and upwards, and where other circumstances are favourable, it may be introduced with great advantage. It should not be attempted unless there are three teachers, viz., either two monitors, or an assistant and a monitor, with the head teacher.

**59.** All that was said in connection with the bipartite system on the subject of the division of pupils, applies with slight variation in the present case. The three divisions should be maintained **as nearly equal as possible** throughout the year, but the transfer of whole drafts from one division to another should be as far as possible avoided.

**60.**—The bipartite system can be carried on with desks and draft circles only, but for the tripartite, gallery accommodation of some kind, either in the school-room or in a class-room, is indispensable. A school provided with class-rooms for one-third of the pupils, as recommended in Paragraph 9, is very suitable for tripartite organisation. There must be desks for at least one-third of the greatest number of pupils present, draft circles for a third, and galleries for a third also.

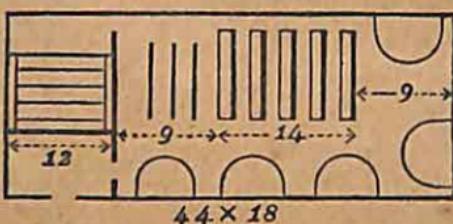
A tripartite organisation cannot be carried out efficiently without **two galleries**, or one that may be used as two. For first, if the attendance be large, one-third of the pupils will form a gallery class too unwieldy to be taught effectively; second, whether large or not, it is impossible to find subjects for all the gallery lessons so general in their nature as to suit the whole of the pupils that form a division.

The two galleries, if in the main schoolroom, should be **near each other**; and one of them should be large enough to hold one entire division, the other to hold half a division. When this arrangement is adopted, the teacher can at each lesson either break up the division into two parts in the two galleries, or teach them all together in the large one, as the nature of the lesson may require. For example, if there be an attendance of 80, there may be one gallery of four forms, each eight feet long; and another of two forms of the same length. The large one will hold 30, and the small one 15. A single gallery however will answer, if it be of the kind shown in fig. 6, as the division may be either divided or taught together on it.

**61.** The galleries may be in one or more detached class-rooms, or in the principal school-room, or one may be in a class-room and the other in the school-room. If they be both in the school-room, the plans given in figs. 5 and 6 are among the best that can be adopted; for these furniture arrangements will suit either the bipartite or the tripartite system.

If there be two class-rooms, one of them at least should have a gallery large enough for one entire division. If there be only one class-room, it should also afford room for a division ; the next figure shows the arrangement if

FIG. 9.



there be two galleries, a large one in a class-room, and a small one (which may consist of a few forms) in the school-room.

**62.** The movements at the end of the lessons are a little more complicated in this system than in the bipartite, for the three divisions move simultaneously. I do not think it necessary to describe the manner of shifting the divisions, as it can present no difficulty to any one who reads the descriptions of the bipartite movements in Chap. V. A few general hints and precautions however may be useful. With respect to the three compartments of the school, there are **two and only two** directions of movement, viz., either desks—floor—galleries—desks, &c., or desks—galleries—floor—desks, &c. A single movement of one of the divisions fixes the direction ; and once this is determined all the other movements for all the divisions must be performed in accordance with it.

So far as mere order is concerned, it is generally speaking a matter of indifference which of the two modes of movement is adopted. But when drawing out a time-table, the teacher will usually see some reason for preferring one to the other. Suppose for example the teacher fixes on arithmetic in the desks as the first lesson for the senior division, and that he

wishes to have them next on the floor for home lessons ; this determines the whole matter ; and the movement for all the divisions during the day will be desks—floor—gallery—desks, &c. Which division take the desks, which the floor, and which the gallery, at the first lesson in the morning, must be determined by the teacher ; for the arrangement suited to one school may not answer so well in another.

#### QUADRIPARTITE OR FOUR-PART SYSTEM.

#### 8. DESCRIPTION AND FURNITURE ARRANGEMENTS.

**63.** This system is a modification of the bipartite ; it is adapted to large schools, especially if there be a class-room, and where it can be carried out it will be found very effective.

The main features of this system are the following : —*First* : the pupils are divided into four parts, and as in the other systems, the divisions must be preserved equal or nearly so.

*Second* : with regard to the positions and movements of the divisions, the pupils of two divisions (half the entire school) are at draft lessons round the room at the same time, but at the other lessons the same two divisions separate, one going to the desks and the other to the gallery ; at the next desk-and-gallery lesson for the same two divisions, their positions are reversed, the division that sat last time in desks now taking the gallery, and *vice versa*.

At every lesson during the day therefore the pupils are disposed in the following manner : half are standing round the room, one-fourth are sitting in desks, and one fourth in gallery ; and at the movement after each lesson, the two divisions that have been on the floor separate into desks and gallery respectively, while the two that have been in desks and gallery now both stand round the room at the draft circles. On the supposi-

tion that there are eight lessons—and this should always be the case when the present system is adopted—it will be seen that each draft receives altogether, during the entire day, two lessons in desks, two in gallery, and four at the draft circles.

*Third*: with respect to house arrangements; there must be draft space enough for half the whole attendance; as many desks as will accommodate at least a fourth, and a gallery (or two) to hold a fourth. In the arrangement of the furniture there may be much variety. One gallery will be generally sufficient, which may be either in the school-room, or what is far better, in a class-room. But if the attendance be very large, two may be required, especially if there be no class-room.

If there be a class-room containing a gallery, the furniture arrangement is so simple that it needs no description. If there be no class-room, the gallery must be in the school-room, and its position will of course depend on the construction of the room. In this case the arrangements represented in figs. 6, 7, and 8, will answer, the desk and gallery accommodation being of course modified to suit the system.

57. Give a general description of the tripartite system of organisation.
58. For what description of schools is the tripartite system suitable?
59. What precaution should be taken as to the numbers in the three divisions.

60. How many galleries are necessary for tripartite organisation? Give our reason for this.

Give the length and number of forms in each of the two galleries, if the attendance be 80: and tell how many each gallery will accommodate.

61. If there be one class-room, where are the galleries to be placed? If there be no class-room, where are they to be placed?

Draw two diagrams, showing furniture arrangements for tripartite organisation—(1) where one of the galleries is in a separate class-room; (2) where both galleries are in the school-room.

62. What are the two modes of moving the divisions of a school in tripartite organisation? What determines mode of movement? Might the movement be floor-galleries-desks, during one part of the day, and floor-desks-galleries during another part? If not, state why.

63. Describe the quadripartite system—*First*, as to the division of pupils; *Second*, as to position and movements; *Third*, as to house and furniture arrangements.

## CHAPTER III.

TIME-TABLES.

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## 1. GENERAL PRINCIPLES.

**64.** A Time-Table is to a school what grammar is to a language. For in the first instance the circumstances of the school determine the construction of the time-table; but once determined, the business should be afterwards carried on in accordance with it. In order that the teacher may be able to follow his time-table, it must be skilfully framed and well suited to the school.

**65.** A time-table should be constructed with care and deliberation, for the success of the school depends in a great measure on its suitability. It may be desirable in the first instance to work the school for a time according to an experimental time-table; but once a teacher has finally settled on his time-table, he should adhere to it, and work the school in accordance with it. It often happens indeed that changes in the circumstances of the school render necessary one or more changes in the time-table. But in no case should a permanent change be made in the working of the school without first making the necessary alteration in the time-table.

**66.** A time-table should be **simple** both in appearance and reality. It should be perfectly free from ambiguity; the general subject as well as the place where it is to be taught, whether desks, floor, or gallery, should be specified for each class or division, at each

period during the day. A visitor walking in at any hour should be able, by looking at the time-table and at the clock, to tell whether each class is in the right place, and at the right employment.

**67.** The time-table for any individual school depends on a variety of circumstances; whether the system adopted be bipartite, tripartite, or a modification of either; whether the school be male, female, or mixed; the proficiency of the children, &c. It is not intended that any of the time-tables given in this chapter should be slavishly and thoughtlessly copied by the teacher. If he thinks, after due deliberation, that one of them will suit his school let him adopt it. But generally it will be better for each teacher to construct his own time-table; and he will likely be materially assisted by some one of my specimens.

**68.** There should be a proper **sequence of subjects.** Two subjects imposing much mental strain, as arithmetic, grammar, &c., should not come one immediately after another. Such subjects should be alternated with others not requiring much thought, such as writing, oral spelling, dictation, mechanical reading, &c.

The writing lesson should not be immediately after arrival or after play; as the children's hands are always hot and unsteady after exercise.

**69.** For young children a lesson of 20 minutes is not too short; but older children will bear lessons of 30, 40, or 45 minutes. As it would be manifestly impracticable however in a national school, to have lessons of different lengths for children of different ages or classes, it will be found the least objectionable plan to make all the lessons of moderate length—30 or 35 minutes.

However, for infants, if there be any in the school, one or two of the lesson intervals might be broken into two.

**70.** Great care must be taken to apportion the time properly among the subjects according to their importance. The principal part of the day must be devoted

to the primary subjects, reading, writing, spelling, and arithmetic. The weekly time for the several subjects is shown farther on in Paragraph 81, which the teacher should consult when framing his time-table.

**71.** The time for secular instruction is generally either  $4\frac{1}{2}$  or 5 hours, which, deducting half an hour for play, gives in the one case 4, and in the other  $4\frac{1}{2}$  hours clear for teaching purposes. The teacher should however try to secure the longer interval (5 hours altogether for secular instruction, including play). I shall suppose for the present that the whole teaching time is divided into eight parts; if it be 4 hours, each lesson will be just half an hour long; if it be  $4\frac{1}{2}$  hours, some will be longer.

The time for religious instruction depends on the circumstances of the individual school; the time-tables that follow will allow its being carried on at any period during the day, by making the necessary changes in the time column. If there be religious instruction every day it ought to be mentioned at the proper time among the secular subjects. If the time for beginning or ending the secular business in any particular school differ from what is set down in these time tables, the necessary alterations can be made in the time column without difficulty.

In the time-tables that follow, the places where the lessons are taught are in all cases mentioned; F stands for floor or drafts, D for desks, and G for gallery. This G will be retained even on the supposition that there is no gallery; and in this case the lessons marked G will be taught in desks, the children being placed as described in page 31.

64. Show that a time table is to a school what grammar is to a language.
65. Why should a time table be framed with care? If a change is required in the time-table what should be done?
66. Describe what a time-table should aim at. What should a visitor be able to learn from a time-table?
67. On what circumstances does the time-table for an individual school depend? How should a teacher use these time-tables?
68. What is sequence of subjects and what does it require in a time-table? Precaution as to writing lesson?

69. What is a good average length of lessons for the general school, and why?

70. What subjects require most time?

71. Give what you think a reasonable time to begin and end secular instruction. How should the religious instruction be mentioned in the time-table?

## 2—TIME-TABLE FOR BOYS' SCHOOLS.

**72. Bipartite.**—Time-table No. 1 is suitable for the great majority of ordinary boys schools whatever may be the attendance or the number of teachers. It will answer any of the furniture arrangements from fig. 2 to fig. 9, last chapter, but it can best be carried out where there are galleries, as in figs. 5, 6, 7 and 8.

If there be some boys learning extra branches, it will not be difficult to find time for them. But generally speaking the best time for teaching extra branches is before or after the ordinary school hours, and **they should not curtail the time for the primary branches.**

"Inspection of cleanliness," "extra instruction," and the particular classes in the divisions are inserted in No. 1, but for the sake of brevity they will be omitted from the others.

If the school time be half an hour longer than is supposed in this time table (which it ought to be if possible) the following time column may be used instead of the one given :—(10—10·5), (10·5—10·40), (10·40—11·15) (11 $\frac{1}{4}$ —11 $\frac{3}{4}$ ), (11 $\frac{3}{4}$ —12 $\frac{1}{4}$ ), (12 $\frac{1}{4}$ —12 $\frac{3}{4}$ ), (12 $\frac{3}{4}$ —1·20), (1·20—1·55), (1·55—2 $\frac{1}{2}$ ), (2 $\frac{1}{2}$ —3), (3—3 $\frac{1}{2}$ ), (3 $\frac{1}{2}$ —4 $\frac{1}{2}$ ).

If singing be taught, time may be allowed for it in a variety of ways. For instance, it may be introduced into No. 1, by adding this note at the foot, which will allow three half hours per week for it :—“ Singing for the whole school from 11 to 11½ o'clock on Monday,

### TIME-TABLE No. 1.

TIME.		JUNIOR DIVISION.	SENIOR DIVISION.		
From	To	First and Second Classes.*	Third, Fourth, Fifth, and Sixth Classes.		
9·55	10	Inspection as to cleanliness.			
10	10½	Arithmetic	D	Home Lessons.	F
10½	11	Home Lessons. (First Class Read.)	F	Arithmetic.	D
11	11½	Arith. Tables, M. T. W. Spelling, Th. Fr.	G	Reading.	F
11½	12	Reading.	F	Writing.	D
12	12½	Play.			
12½	1	Copying from Books.	D	Arithmetic.	F
1	1½	Arithmetic.	F	Dictation.	D
1½	2	Writing.	D	Reading, (Grammar, Wed.)	F
2	2½	Reading.	F	Geography, M. Tu. W. Grammar, Th. Fr	G
2½	3	Religious Instruction.			
3	4	Extra instructions for Monitors' class.			

\* The classes and drafts composing each division depend of course on the school.

from 12½ to 1 on Wednesday, and from 2 to 2½ on Friday." (But if there be a classroom, singing can be taught to individual classes without disturbing the rest of the school.)

**73.** Should the teacher wish to introduce drawing, the following time-table (No 2) will answer, allowing for this subject three lessons per week for each division. If the junior division be not engaged at drawing, let the left-hand part of the time-table be filled up the same as in No. 1. If three lessons per week be thought insufficient for this important subject, or if lessons longer than 35 minutes be considered desirable, it will be better to teach it before or after the ordinary school hours.

TIME-TABLE No. 2.

TIME.		JUNIOR DIVISION.	SENIOR DIVISION.		
10	10½	Religious Instruction.			
10½	11.5	Copying.	D	Home Lessons.	F.
11.5	11.35	Home Lessons, (First Class Read.)	F	Writing.	D
11.35	12.10	Arithmetic.	D	Arithmetic.	F
12.10	12.40	Reading.	F	Dictation.	D
12.40		Play.			
1.10	1.40	Spelling, M. Tu. Drawing, W. Th. Fr.	D	Grammar. (Reading Mon.)	F
1.40	2.15	Arithmetic.	F	Arithmetic. (Drawing, Wed.)	D
2.15	2.55	Writing.	D	Reading.	F
2.55	3½	Reading.	F	Geography, M. Tu. W. Drawing, Th. Fr.	G

**74.** *Tripartite.* The two following tripartite time-tables require no explanation; they are types, which, with the necessary modifications to suit special circumstances, will answer for most schools organised on the tripartite system. Either of them can be easily modified to admit one or more lessons per week on drawing, or singing, or both, for one or more of the divisions.

TIME-TABLE No. 3.

TIME.		JUN. DIV.		MID. DIV.		SEN. DIV.	
10	10.35	Copying.	D	Arithmetic. (Spell. Mon.)	G	Home Lessons.	F
10.35	11.10	Arithmetic.	G	Home Lessons.	F	Writing.	D
11.10	11.45	Reading.	F	Dictation.	D	Grammar (Read. Tues.)	G
11.45	12.15	Writing.	D	Gram. M. T. W. Read. Th. F.	G	Arithmetic.	F
12.15	12.45			Play.			
12.45	1.15	Spelling.	G	Arithmetic.	F	Dictation.	D
1.15	1.45	Reading.	F	Writing	D	Geography. (Read poetry, Mon.)	G
1.45	2.25	Arithmetic.	D	Geography. (Tables, Mon.)	G	Reading.	F
2.25	3	Reading.	G	Reading,	F	Arithmetic.	D
3	3.30			Religious Instruction.			

72. Write out from memory a copy of Time-table No. 1. What is the best time for extra subjects? Give a time column of eight lessons (to correspond with Time-table No. 1) secular instruction 10 to 3 o'clock. How would you allow time for singing?

73. Write out a Time-table with lessons in Drawing.

74. Draw out a tripartite eight-lesson time-table; secular time 10 to 3 o'clock. Re-write it, so as to include drawing for middle and senior divisions. Draw out a tripartite seven lesson time-table; secular time 10 to 3.

## TIME-TABLE No. 4,

TIME.		JUN. DIV.		MID. DIV.		SEN. DIV.	
10	10-40	Read. 20' Spell. 20'	G	H. Less. 20' Arith. 20'	D	Home Lessons.	F
10-40	11-20	Arithmetic.	D	Reading.	F	Ment. Arith. M. Tu. Geography, W. Th. Fr.	G
11-20	11-55	Reading.	F	Geography, M. T. W. Grammar, Th. Fr.	G	Writing.	D
11-55	12-35	Copying.	G	Dictation.	D	Arithmetic.	F
12-35	1-5	Play.					
1-5	1-40	Writing.	D	Reading.	F	Grammar. (Read. Mon.)	G
1-40	2-20	Reading.	F	Arithmetic.	G	Dictation, M. T. W. Arithmetic, Th. Fr.	D
2-20	3	Arithmetic.	G	Writing.	D	Reading.	F
3	3-30	Religious Instruction.					

## 3.—TIME-TABLES FOR MIXED SCHOOLS.

**75. Bipartite.** A mixed school, in which the girls do not learn needlework, is, so far as the time-table is concerned, **the same as a boys school**; and some one of the preceding time-tables will answer. The only precaution necessary in this case is to put the boys and girls sitting in separate desks; and though they stand together at the floor lessons, still the girls should be at one side of the circle, and the boys at the other.

To construct a time-table for a mixed school in which needlework is taught requires careful consideration. For while the girls are working, the boys continue at their ordinary lessons, and the time for work must be so arranged that this loss of literary instruction shall not be confined to one or two subjects, but shall be distributed among several.

**76.** In some mixed schools a work-mistress gives

#### TIME-TABLE No. 5.

TIME		JUNIOR DIVISION.		SENIOR DIVISION.	
10	10.35	Arithmetic.	D	Home Lessons.	F
10.35	11.10	Home Lessons. (First Class Read.)	F	Arithmetic (Geography, Wed.)	D
11.10	11.45	Arith. Tables, M. T. W. Spelling, Th. F.	G	Reading.	F
11.45	12.15	Reading.	F	Writing.	D
12.15	12.45	Recreation.			
12.45	1.20	Copying.	G	Arithmetic.	F
1.20	1.50	Arithmetic.	F	Dictation.	D
1.50	2.25	Writing.	D	Reading.	F
2.25	3	Reading.	F	Grammar, M. W. Fr. Geography, Tu. Th.	G
3	3.35	Religious Instruction.			

#### NEEDLEWORK ARRANGEMENT.

		Monday, Tuesday, Wednesday.	Thursday, Friday.
12.45	1.50	Girls of Senior Division.	Girls of Junior Division.
1.50	2.50	Girls of Junior Division.	Girls of Senior Division.

instruction in needlework for two hours; in others there is a permanent female assistant who teaches needlework for some short time each day, and assists in the general business for the rest of the time. In the former case, the best and most usual arrangement is to divide all the girls that work into two classes, each of which receives instruction for about one hour. Time-table No. 5 is constructed on this principle; it will answer for a mixed school of any attendance.

If however only a small class of girls learn needlework, it will be scarcely necessary to make special arrangements for it. In this case the simplest plan is to use one of the time-tables already given for boys' schools, and let the girls that work be sent to the work-mistress according as they can best be spared from their literary lessons.

**77.** If there be a permanent female assistant who teaches needlework for an hour or so, the same time-table can be used, only with the addition of the following simpler needlework arrangement, instead of the one given:—

NEEDLEWORK.		
12.45	1.50	Monday, Tuesday, and Wednesday.
1.50	2.50	Thursday and Friday.

**78.** *Tripartite.* In time table No. 6, the girls work for two hours. They should be divided into two classes, one elementary, and the other advanced. If needlework be taught for only one hour to a single selected class of girls, the same time-table (No. 6) will answer equally well, by adding the following needlework arrangement instead of that given:—

NEEDLEWORK ARRANGEMENTS.		
12.50	1.50	Monday, Tuesday, and Wednesday.
1.50	2.50	Thursday and Friday.

## TIME-TABLE, No. 6.

TIME.		JUN. DIV.		MID. DIV.		SEN. DIV.	
10	10.35	Copying.	D	Arithmetic, M. T. W. Spelling, Th. F.	G	Home Lessons	F
10.35	11.10	Arithmetic.	G	Home Less. 20' Reading 15'	F	Writing.	D
11.10	11.45	Reading.	F	Writing.	D	Gram. M. T. Read. W. Th. Geog. M.	G
11.45	12.20	Writing.	D	Geography. (Reading Mon.)	G	Arithmetic.	F
12.20	12.50	Recreation.					
12.50	1.20	Spelling.	G	Arithmetic.	F	Dictation.	D
1.20	1.50	Reading.	F	Dictation.	D	Geography. (Grammar, Mon.)	G
1.50	2.25	Arithmetic.	D	Grammar. (Arith. Tables. Mon.)	G	Reading.	F
2.25	3	Reading.	G	Reading.	F	Arithmetic.	D
3	3.35	Religious Instruction.					

## NEEDLEWORK ARRANGEMENT.

TIME.		Monday, Tuesday, Wednesday.	Thursday, Friday.
12.50	1.50	Advanced Class.	Elementary Class.
1.50	2.50	Elementary Class.	Advanced Class.

75. What sort of time-table answers in a mixed school where the girls do not learn needlework? What precaution as to where girls should sit and stand? Why is it hard to draw a time-table for a mixed school with needlework?

76. In what two ways may the needlework instructor be employed? Draw out a bipartite time-table for a mixed school where the work-mistress teaches for two hours.

If only a few girls learn needlework what arrangement will answer?

77. Give the needlework arrangement where there is a permanent female literary assistant, who teaches needlework for about one hour.

78. Draw out a tripartite eight-lesson time-table for a mixed school; secular time 10 to 3 o'clock; needlework for two hours. If needlework be taught for only one hour or so in this school, give needlework arrangement.

#### 4. TIME-TABLES FOR GIRLS' SCHOOLS.

**79.** *Bipartite.* Time-tables for girls' schools admit of much variety, in consequence of the different arrange-

TIME-TABLE No. 7.

TIME.		JUNIOR DIVISION.		SENIOR DIVISION.	
10	10.35	Home Lessons. (First Class Read.)	F	Dictation. (Arithmetic, Wed.)	D
10.35	11.5	Dictation.	D	Home Lessons.	F
11.5	11.40	Arith. M. Tu. Wed Read. Th. Fr.	F	Writing.	D
11.40	12.15	Writing.	D	Arithmetic.	F
12.15	12.45	Play			
12.45	1.20	Reading.	F	Grammar M. Tu. W. Geography Th. F.	G
1.20	2	Arithmetic and Tables.	D	Reading.	F
2	2 $\frac{1}{2}$	Needlework.			D
2 $\frac{1}{2}$	3				
3	3.35	Religious Instruction.			

ments for teaching needlework. Time-table No. 7 will answer for any female school in which needlework is taught for one hour, and in which the whole time for secular instruction (not including the interval for play) is four hours and a half.

**80.** *Tripartite.*—The construction of a tripartite time-table for a girls' school depends on a variety of circumstances, and time-tables may be drawn out in a corresponding variety of forms. Time-table No. 4 may be adapted to a girls' school by making all the lessons half an hour long. This will bring the literary business to terminate at 2 o'clock; and the remaining hour can be spent at needlework. It would be easy to modify others of the tripartite time-tables in like manner, so as to make them fit for girls' schools.

Any teacher who can draw out a common bipartite time-table can easily modify it to suit quadripartite organisation, by taking the scheme described in pages 35, 36, as the basis.

79. Draw out a bipartite eight-lessons time-table for a girls' school; secular time 10 to 3 o'clock; senior girls working one hour, and junior girls half an hour.

80. How would you proceed to arrange a tripartite time-table a for girls' school; needlework about one hour?

## 5. ANALYSIS OF NO. 1; DISTRIBUTION OF TEACHER'S TIME.

**81.** According to time-table No. 1, the pupils of both divisions receive altogether four lessons at the draft circles, three in the desks, and one in galleries (or in desks used as galleries—see p. 31). The number of half-hours devoted weekly (in this time-table) to

each subject is shown in the following table ; Saturday is not included :—

	Read.	Writ.	Dict.	Arith.	Gram.	Geog.	H.Les.	Total.
SEN. DIV.	9	5	5	10	3	3	5	40
JUN. DIV.	15*	5	5	13	Spell 2			40

**82.** The labours of a teacher in a school are chiefly **two-fold, teaching and superintending.** In the performance of this double duty, there are two extremes which he must carefully avoid : on the one hand, allowing himself to be totally absorbed in teaching a succession of single classes, without sufficiently attending to the rest of the school ; and on the other, wasting his time in constant superintendence, and teaching little or none. When a lesson commences, he should not at once drop into his class and begin to teach, as if he felt no interest in what is going on in the other classes ; this is a fault to which zealous and conscientious teachers are sometimes liable, from their extreme anxiety to be constantly employed in teaching.

Immediately after the divisions have changed places his first duty is to **go round to the drafts and classes one by one** to see that each is at the proper subject or lesson, and if necessary to give some directions, or speak a few words of encouragement to the pupils or monitors. This most important duty will generally not occupy more than four or five minutes.

But the other extreme, spending the whole or a considerable part of the day in merely superintending, is far more pernicious in its effects and tendencies, both on the teacher and on the school. A teacher addicted to this is constantly employed in visiting the drafts in

\* Including a short time at home lessons, for any drafts of the junior division that may be engaged at them.

succession, teaching or questioning a few minutes in one, uttering some hasty directions, or putting the children in order, in a second, listening with attentive ear to the questions and answers of a third; he is lively-looking and fussy, but he scarcely ever teaches a lesson.

This kind of employment is little better than downright idling. A teacher might divide his time between two classes during a lesson: whether he do this or remain altogether with one, depends on the nature of the lesson, as well as on several other circumstances, and must be decided on each particular occasion by his own judgment. But he can hardly teach in more than two classes within one half hour, without approaching too nearly to the wretched practice already described.

**83.** As he will have to confine himself to one or two drafts of the division during the half hour, he must be careful so to distribute from day to day his teaching among the different drafts and classes, that more time and attention shall not be bestowed on any one than is justly due to it.

The teacher will find it convenient to make a rule **not to change from one division to another** within the time of one lesson, except merely for the purpose of a hasty visit as already stated: if he change at all it should be from one draft to another of the same division. The paid monitor should not as a general rule (subject to occasional exceptions) be employed in the same division with the principal teacher: if there be more than one, their distribution is usually a matter of less difficulty.

81. Suppose 40 half-hour lessons per week; distribute them among the several subjects, showing how many of the 40 are to be given to each subject for each division.

82. What are the two-fold duties of a teacher in a school? Point out the two extremes he must avoid. Describe how a teacher should act immediately after change. Show the evil of the teacher devoting too much time to mere superintendence.

83. Between how many classes, at most, should a teacher divide his time during a lesson. While the teacher is with one division where should the monitor generally be?

## 6. MANAGEMENT OF SCHOOL AT THE DIFFERENT LESSONS.

**84.** According to the Rules of the Board one assistant is allowed for an average of 70 pupils: and beyond this, an additional assistant for every 35 in average attendance. An average of 40 renders a school eligible for a monitor: and additional monitors are allowed according to the attendance and teaching staff. The Rules then will allow one teacher for every 35 pupils; and they will allow more if monitors be taken into account.

There is no good reason why a single teacher and a monitor should not be able to conduct efficiently a school with an attendance up to 70. The following instructions, which apply directly to time-table No. 1, show how this may be done. In the school supposed here the junior division consists of first and second classes—five drafts, and the senior of third, fourth, fifth, and sixth classes—four drafts. I must remark that these instructions must be taken in conjunction with those given in Chapters II. and IV.; and that they will apply, with slight modification, to all the other time tables.

**85.** 10 to  $10\frac{1}{2}$ . Senior division home lessons in drafts.—**The preliminary business should not encroach on the school work;** the children should be marched in a few minutes before the time, and the first lesson should be actually beginning at ten o'clock.

The teacher first examines the pupils of one draft in the whole of their home lessons, next those of another, and so on, going from draft to draft till the half hour terminates. He will not be able to examine all himself, so that it will be necessary for him for part of the time to have the assistance of the monitor, who leaves the junior division temporarily for that purpose. The teacher should examine on to-morrow those examined by the monitor to-day. The pupils of those drafts

immediately under examination should not be allowed to rehearse their home lessons; they should be at reading, spelling, or tables, under the care of the head pupil or the best reader in each draft.

If the teacher wish to examine all the lessons every day himself, a good plan is to begin before ten o'clock and examine the pupils individually as they come in, stopping at five minutes before ten; those that remain he can easily examine within the half hour. All the home lessons of the senior division, without one exception, should be examined by half-past ten.

*Junior division, arithmetic in desks:* in charge of the paid monitor. This is a silent lesson, and the children work for themselves, requiring not so much teaching as superintendence and guidance. The monitor, having seen that all are at work, may leave them for ten minutes in the middle of the half hour to assist the head teacher with the home lessons. For the plan of working see Part II., Chap. V.

**86.** 10½ to 11. *Senior division, arithmetic in desks.*—This is a silent lesson, and the pupils work for themselves out of books; they may be superintended by the monitor every day except one or two, when they are in charge of the teacher. They should all, without exception, be **provided with arithmetics**, which they take out from their satchels or straps the moment they are seated. **All should work on paper.** Every exercise should be looked at when finished, the pupil holding up his hand as a signal. Two pupils who happen to be at the same exercise should not be allowed to sit next each other. For further instructions on the method of working, see Part II., Chap. V.

*Junior division, reading and home lessons in drafts.*—According to arrangement the teacher has charge of junior division at this hour every day except one or two, and he will require the help of unpaid monitors. As home lessons are prepared by the pupils of only one or two of the drafts, and as they are besides very short, they can be examined in a few minutes; the rest of the

time is spent at reading and spelling by these drafts, and the whole half hour by those that prepare no home lessons.

The teacher, having glanced at the senior division to see that all are earnestly engaged, and that the monitor is doing his duty, and having given directions to the monitors of his own division as to the particular manner in which they are to exercise the children (for which see "Reminders for Monitors," Part II., Chap. I.), begins to teach in the draft he has chosen for himself. None of the drafts should be allowed to remain for one moment idle during the whole half hour.

**87.** 11 to 11½. *Senior division, reading lessons in drafts.*—The teacher should be in charge on about three days of the week, and the paid monitor on two: for directions, see 1½ to 2.

*Junior division, arithmetical tables, three days; spelling, two days.*—The teacher in charge two days, and the paid monitor three. The children must be divided into at least two sections; and they either sit in galleries, or if there are none they are arranged in desks, as directed in page 31; or one half in the gallery and the other half in desks. In any case they should be in two parts (or more in case of a large school), the teacher or paid monitor, whichever is in charge, taking one part, and an unpaid monitor the other; and he may either divide his time equally between them each day, or take each for an entire lesson on alternate days. For methods of exercising the children in Tables, see Part II., Chap. V.; and for Spelling, see Part II., Chap. IV.

**88.** 11½ to 12. *Senior division, writing.*—The teacher should be in charge on at least three days. For directions see Part II., Chap. III.; see also Part I., Chap. V.

*Junior division, reading lesson.*—Teacher in charge two days—paid monitor three, assisted in each case by unpaid monitors. The directions given at 10½ to 11 apply here.

**12 to 12½.** *Play.*—The only remark necessary here

is that the children should **never be allowed to play by themselves**; the teacher should always be either with or near them, not to interfere with their play, but to repress disorder when necessary.

**89.** 12½ to 1. *Senior division arithmetic in drafts.*—

One of the most important lessons of the day, and always managed by the teacher. Before beginning slate work, a few minutes should be devoted every day to **arithmetical tables and mental calculation.** After this the pupils work exercises on slates, dictated by the teacher or monitor, who explains methods and corrects errors in principle, by means of the black board. The exercises should be **dictated** to the children—never (except in a special case) written on the black board for them to copy. Very often two drafts can be joined into one, to receive the same instruction; but this will depend on the particular portion of the subject the teacher happens to be dealing with. The teacher should generally be able to teach two drafts at the same time, and for this purpose they should stand together at a large circle, to prevent the trouble and delay of going from draft to draft. By standing at the same circle, the two drafts need not necessarily receive the same instruction; different exercises may be dictated to them, and at the same time the teacher can easily manage both.

To manage the whole division he must have the assistance of a good unpaid monitor, who will dictate from the book the exercises pointed out by the teacher, and see if the answers are brought out correctly. The paid monitor might be with the teacher in this division the whole time on two days of the week, and for part of the time on the other three days. For full instructions see *Method of Teaching Arithmetic.*

*Junior division in desks, copying from books.*—On the method of carrying on this lesson, full instructions will be found in Chapter IV. of Part II. If the whole of the first class children are not furnished with books, it will be better to hang a First Book tablet before the

class, from which they are to copy. They should be made to write large and open, and to form the letters well and carefully, the same as in copy-writing. The teacher must always bear in mind that they will write as small as they can if they are allowed.

The second class children will transcribe from their reading-books; and it will be better if they use paper. As in case of first class children, here also the teacher will have to strive against the tendency of the children to write small and close; the writing must be large, open, plain, and well formed; the spelling and punctuation correct; and the words must not be crushed against the right hand margin of the page. A monitor can conduct this lesson.

**90.** 1 to 14. *Senior division, dictation.*—For this subject, see Part II., Chap. IV. Teacher should be in charge of the division on two days, and the paid monitor on the other three days of the week.

*Junior division, arithmetic in drafts.*—At this lesson the division may generally be thrown into large drafts, each consisting of two small ones. The lesson is taught opposite the black boards, and consists wholly of slate work. All the children in the division should have slates in their hands; even the very youngest can and should be taught to use them. (See Par. 32.) The black board should be constantly used to show them how to work easy sums; and they should be taught to take down from dictation and work short little exercises in notation, addition, &c. They should be constantly exercised till they are quite expert in obeying the orders, "slates down," "show slates," &c. For further directions, see Part II., Chap. V.

**91.** 1½ to 2. *Senior division, reading (grammar, Wednesday) in drafts.*—This lesson is conducted every day except one by the teacher, who will require the assistance of unpaid monitors; the paid monitor might occasionally assist him during a part of the time. The chief business of the unpaid monitors in this division will be to teach reading and spelling.

*Junior division, writing in desks.*—The children, under the superintendence of the paid monitor, are writing copies on slates, except those in second class, who should write on paper. All should be at work to the very youngest. Those who have slates may copy from one large common line chalked by the teacher on a black board, which is hung on an easel in front of them. The monitor's chief business is to see that all keep constantly working, that they are supplied with pens or long pencils, and that they hold them rightly, and sit in a proper position.

**92.** 2 to 2½. *Senior division, geography three days, grammar two days.*—The teacher should have the entire charge, except perhaps on one of the geography days, and the pupils sit either in galleries, or in desks, as directed in page 31. The manner in which they are to be grouped will depend on circumstances; the teacher in all cases bearing in mind the particular portion of geography or grammar laid down in the Programme for each class. At the geography lesson for instance the third and fourth classes may be often joined together for a lesson on the map of the World, while the fifth and sixth may be taught together at a map common to both. The teacher will want the assistance of one or two unpaid monitors, as the paid monitor will be required with the junior division.

*Junior division, reading.*—The paid monitor who is in charge (except on one day, when the teacher is with this division) will require the assistance of unpaid monitors. The observations made in connexion with the lessons at 10½ to 11, and at 11½ to 12, apply generally here.

N.B.—The teacher must bear in mind that a paid monitor is not to be employed in teaching more than three hours a day; and that he must be allowed the rest of the school time each day for his own use, either to study (under the teacher's directions) or to join the head class. I have not taken this into account in the preceding arrangements for two reasons:—First, I think

it better that this time be not given at the same hour every day, in order that the loss may be distributed among several subjects; and secondly, it is better to let the teacher himself regulate the matter according to his own judgment. But the arrangements for the special instruction of the paid monitors, as well as that for extra subjects (if taught), should always be set forth in the time table.

84. State the Board's Rules regarding assistants and monitors. What attendance in a school should a teacher be able to manage and teach with the aid of a monitor?

85. *Senior Division (in drafts) — Home Lessons.* Describe the mode of examining the tasks of senior division.

How should those pupils not immediately under examination be employed? If the teacher wish to examine all himself, what is the best plan?

*Junior Division.—Arithmetic in Desks.*—Describe their work. At what period of the lesson might the monitor leave them to assist in the senior division?

86. *Senior Division.—Arithmetic in Desks.*—Describe fully how the work is carried on. Where do the pupils get materials for work?

*Junior Division.—Reading and Home Lessons.*—How is this lesson carried on so that all shall be at work the whole time? How are the home lessons managed? What directions should the unpaid monitors get before they begin?

87. *Senior Division—reading.*—How often should teacher have charge?

*Junior Division.—Tables or Spelling.*—How are the children to be grouped? Who are to teach the different groups from day to day?

88. *Senior Division.—Writing.*—Who has charge?

*Junior Division—Reading.*—By what means are all to be kept at work? Play.—Where should the teacher be while the children are at play?

89. *Senior Division.—Arithmetic (drafts).*—With what exercise should the work begin each day? Describe how slate work is carried on. What use is made of black board? On what occasion might two drafts be combined? How many drafts should the teacher teach, and how is he to manage it?

*Junior Division.—Copying (desks).*—If all the first class children have not books, what are they to copy from? What directions should be given to the children in regard to the writing? From what book are the second class children to transcribe?

90. *Senior Division.—Dictation.*—How many days is teacher in charge?

*Junior Division.—Arithmetic (drafts).*—How are the children grouped? How are they employed? What special training should the little children get during this lesson? Nature of their work?

91. *Senior Division—Reading or Grammar.*—Who conducts this lesson?

*Junior Division.—Writing (desks).*—From what do young children copy? What is the special business of the monitor who superintends?

92. *Senior Division (seated).—Geography or Grammar.*—What determines the manner of grouping the different classes? Give examples?

## CHAPTER IV.

## MONITORS.

## 1. UNPAID MONITORS

**93.** The monitorial system was first introduced into these countries, in the beginning of the present century, by Bell and Lancaster; it was taken up and supported for a time with great enthusiasm, and soon found its way into some of the principal countries of the Continent. For many years after its introduction the real extent of its utility appears to have been misunderstood. Its advantages were ridiculously exaggerated by enthusiastic supporters; it was carried to an almost incredible excess, and was grossly abused. The monitors were chosen at random; they were not sufficiently prepared for their duties; they were obliged to teach constantly, and received very little instruction themselves; and worst of all, while thus unfitted for their monitorial duties, almost the whole of the teaching was deputed into their hands. The master scarcely ever taught, he merely *superintended*; and it was maintained that by this new engine, a single teacher could conduct a school of 1,000 pupils as easily as one of 30.

The system, worked out in this manner, as might be anticipated, proved an utter failure wherever it was tried; the extravagant promises of its supporters were never realised, and it fell after a while into almost universal disrepute. In these and other countries however the employment of monitors was acknowledged to be useful—not the less so because it had been abused; and at the present day every judicious teacher, while carefully avoiding the absurd extremes of the old monitorial

system, makes use, to a moderate extent, of the best of his pupils to assist him in teaching.

**94.** To carry out any of the preceding time-tables, and to keep all the children constantly at work, it is necessary to employ a class of trained unpaid monitors. But let the teacher never forget that on his own individual teaching and on that of his paid monitors and assistants, if he have any, the success of the school mainly depends, and that **he employs monitors to assist, not in any degree to supersede his own labours.** He employs them for the purpose of keeping children constantly working, who would otherwise be obliged to sit a good part of the day idle. But he must himself teach on as uninterruptedly as if he had no monitors at all.

**95.** Generally speaking, the monitors should be chosen from the highest classes in the school, that is, from the fifth or sixth; children are sometimes found even in the fourth class who make excellent monitors. None should be selected but those that attend regularly; for irregular attenders are generally careless, not only as to the manner in which they teach, but also as to their own progress.

**96.** No monitor should teach more than **one lesson per day**, and the class should receive extra instruction from the teacher in compensation for the time they lose. It is here taken for granted that the advanced pupils are willing to teach; for there is no school where the master has earned the respect and confidence of the parents and pupils, in which the boys will not cheerfully assist him to any reasonable extent.

**97.** The simpler and more mechanical parts of the school work can be done by an attentive monitor almost as well as by a teacher: such for instance as exercising First or Second Book children in reading, spelling, and arithmetical tables, superintending junior classes at copying or working sums, &c.

There is no pupil of fifth or sixth class who cannot

do this simple work if he is only put on the right way. But simple as the work is, children cannot be expected to do it properly without being shown how. Accordingly the teacher must regularly teach them how to teach. But his instructions must be very simple and to the point. Indeed, he need do little more than repeat for them, in his own words, the "**Reminders for Monitors,**" given farther on in this book, warning them specially against those faults in teaching to which monitors and young teachers are specially liable.

**93.** Whether the monitors do their work well or ill depends entirely on the teacher. If he appear indifferent, merely sending them to their classes and giving himself no further concern, their teaching is sure to be worthless. If on the contrary he show himself anxious, continue to remind them day after day of what they ought to do, and never fail to notice and correct a fault, they will certainly teach well. And let it be specially borne in mind, that all this can be accomplished with very little trouble, and without sacrificing the time of either the teacher or the monitors.

93 When, and by whom was the monitorial system introduced into these countries? In what manner was it received? In what way was it abused? Explain the causes of its failure. Show that the reaction against it was carried too far?

94. By what contrivance are we enabled to carry out our time-tables and keep all the children constantly at work? To what extent should the employment of unpaid monitors interfere with the teaching of the teacher?

95. From what classes generally should unpaid monitors be chosen?

96. How many lessons per day should each unpaid monitor teach? What compensation should they get?

97. What subjects are suitable for monitorial teaching? How are monitors to be prepared for teaching these subjects?

98. On what does the efficiency of the monitors' work depend?

## 2. EXTRA INSTRUCTION.

**99.** There is probably no highly successful school in which it is not customary for the teacher to give lessons in arithmetic or in some extra branches to his head class, after the dismissal of the other pupils. The duties of a teacher are so multifarious during the day,

he has so many classes to attend to, that it is impossible for him, without neglecting the rest of the school, to bestow so much time and such exclusive attention on the pupils of the head class as they require.

But this can be remedied by one hour's instruction in the evening, when the school is quiet, and the teacher's whole attention can be concentrated on the class. This course should be adopted, even independently of the consideration that the elder children act as monitors ; but when these same pupils lose half an hour every day in teaching, it becomes in a still higher degree a matter of obligation on the teacher. The old maxim that a person learns by teaching others requires considerable limitation ; in many cases indeed it holds good, but not unfrequently a monitor all but loses his time by teaching.

**100.** During seven months of the year, viz., from the 1st of March to the 30th of September, the head classes should receive extra instruction for one hour ; and during the rest of the year for at least half an hour. In some few schools the hour's instruction may be divided, giving half in the morning and half in the evening ; but this can be done only in those schools where the teacher has succeeded in inducing the great body of the children to attend early in the morning.

I do not think it necessary to say anything as to the subjects that are to be taught at this extra class. The teacher is the proper judge of that, and it is best to leave it entirely in his hands.

**101.** In connection with this subject of extra instruction, it is worth while to mention that in the Central Model School there is a "Morning Lesson" every day, beginning at a little after nine o'clock, and terminating at a few minutes before ten. It is not for unpaid monitors, as few such are employed in the school ; the pupils of every class are allowed to attend, and the masters and mistresses urge them to come, but it is open to the parents to send their children or not. The teachers of the several divisions take whatever

subject their pupils are most in need of—Arithmetic, Geography, Grammar, Euclid, Mensuration, &c. The pupils are fresh and vigorous in mind and body, and they work with the greatest vivacity; there is in fact no lesson during the day from which they derive more benefit. Such is the popularity of this "Morning Lesson," that two-thirds of the children are generally present at twenty minutes past nine.

In most town or village schools, a morning lesson of this kind, at least for the senior half of the school, could be carried on, with great advantage to the pupils.

99. How do you show the necessity of extra instruction for the advanced classes? How far is it true, and how far is it not true, that a person learns by teaching?

100. At what time, or times, in the day should extra instruction be given?

### *3. PAID MONITORS.*

**102.** A paid monitor unites in himself the functions of both pupil and teacher. In the capacity of teacher, his duty is to teach in the school for a certain time every day; and as a pupil, he is, in the first place, to be allowed the rest of the school time for his own improvement; and in the second place, he is, in addition to this, to receive instruction from the teacher every day, either before or after school time.

**103.** Paid monitors are appointed only from 1st July in each year, and only for a period of *three years*; but under certain conditions a monitor may be continued for a further period of two years. The salary increases yearly for the whole term of five years.

**104. A monitor must not be employed more than three hours a day in teaching.** For the rest of the school day he is to receive instruction from the teacher with the rest of the pupils. This does not necessarily mean that he is to stand in the same class with the senior pupils; he may do so, or work apart under the teacher's direction; the one important point to be borne in mind is, that he must

receive his due share of instruction. Besides this, the teacher is to instruct him for at least three quarters of an hour each day on five days in the week before or after school hours; or for half an hour on five days and for two hours on Saturdays. Observe that it must be "**before or after school hours.**" No part of this instruction therefore is to be given at the time of play.

**105.** There is a very carefully graduated programme for monitors, extending over the five years' course, beginning a little higher than what is expected from pupils of fifth or sixth class (according to the standing of the monitor at the time of his appointment) and ending in the programme for third-class teachers.

To test their proficiency, and to ascertain whether the teachers have faithfully discharged their duty in regard to them, all paid monitors are subjected to a yearly examination in the subjects specified for each year in the programme; \* and the teacher of every monitor who answers satisfactorily is entitled to a gratuity for instructing him, varying from £1 to £3, according to the standing of the monitor. Monitors who fail to show a competent knowledge of the prescribed course are liable to have their salaries withdrawn; and of course in such cases also, the gratuity would be withheld from the teacher.

**106.** Thus it will be seen that the Commissioners have made ample provision, in the way of both reward and punishment, for the instruction and improvement of the monitors. But although the great body of the teachers faithfully discharge this part of their duty, there are still not a few who, to a greater or less extent, neglect the instruction of their monitors. This is a fact that is ascertained beyond all doubt from the results of the examinations. It is of the utmost consequence

\* It will be useful if the teacher supply the monitor with a copy of the programme, so that he may know exactly what will be required of him at each yearly examination.

to such teachers—to all teachers indeed—to understand, that it is as much their duty to teach the monitors as to teach their schools. The teacher who neglects or evades this duty is guilty of a gross violation of one of the plainest rules of the Commissioners; he is guilty of a palpable injustice, for he withholds from the monitor the instruction that is his just and natural right, and which is generally far more precious to him than the little salary he receives from the Board.

But passing over, for a moment, justice and the rules of the Commissioners, and keeping in view expediency only, it appears nothing less than downright infatuation to leave the monitors without instruction. How can it be expected that these young people will continue able to teach if they are not taught themselves? Or can any one imagine that a monitor will discharge his duty with spirit and earnestness, and with advantage to the school, or that he will grow up with the love of teaching, when he is rather driven to hate both the school and the occupation, by being doomed to perpetual drudgery and left to carry on his own studies without assistance or encouragement?

The monitors should be subjected periodically—once a fortnight or once a month—to a searching written examination. At the end of Part II., Chap. IX., will be found some suggestions on the proper manner of conducting these examinations.

102. What position does a paid monitor hold in a school?
103. Length of a paid monitor's course and period of appointment?
104. How long each day is a monitor to teach? How is he to employ himself the rest of the day? Amount of extra instruction to be given to monitor? When is it to be given?
105. How is a monitor's proficiency tested? If a monitor fail?
106. Mention the different arguments to show that it is incumbent on a teacher to carefully instruct his monitors?

## CHAPTER V.

## DISCIPLINE; ORDER; CLEANLINESS.

## 1. NECESSITY FOR DISCIPLINE.

**107.** "He who can teach but cannot govern works at an enormous disadvantage. Perfect discipline in a class or a school is an indispensable condition of successful teaching. It is necessary for the pupils, not only because by it they will learn in a given time twice as much and twice as easily; but because one of the things they come to school to acquire, over and above certain arts and accomplishments which are generally termed education, is the practice of obedience. . . And it is of no less consequence to the teacher. His own health, his temper, and his happiness suffer grievously if he cannot command perfect obedience."\*

**108.** Every teacher should lay down a code of rules for the government of his school. These rules should be few, simple, and easily obeyed.

Once the rules are laid down the teacher must insist that the children obey them. No breach of rule, however trifling, should be passed over: at the cost of any amount of time and trouble in the beginning, the teacher must lead the children into the habit of obedience. **Obedience is easy when it becomes a habit.**

**109.** It is not necessary that the teacher put on a stern severe manner in order to enforce discipline, and

\* "Lectures on Teaching" by J. G. Fitch, M.A. (p. 91.)

it is not necessary or right that the school be kept in a state of perpetual fear and gloomy silence. On the contrary, the best disciplinarians are those that have an open, hearty, pleasant disposition, and the best disciplined schools are those in which the children are allowed a certain degree of cheerful freedom—a moderate indulgence in that joyous fun and glee they so much love. Discipline that is overstrained **defeats its own purposes**; for children governed in this way are orderly only in presence of the teacher, and come at last to hate the school because it is associated in their minds with perpetual restraint and fear.

**110.** Some men are good disciplinarians by nature; but it is important to remember that all teachers, however naturally deficient in this respect, can become good disciplinarians by imitating others more skilful, and by practice.

**111.** The conduct of the children while under examination by the inspector is a sure test of the discipline of the school. Where the discipline is good the children are quiet and respectful and ready to obey exactly the directions of teacher and inspector; everything is done both by teacher and children to facilitate the inspector's difficult task; and the examination proceeds and ends satisfactorily. If the discipline is bad things are all the reverse. The children are restless, full of sly tricks, and ever on the watch to copy the moment the inspector's eye is off them. They make him feel that he cannot trust them for a moment, and almost his whole time is taken up watching them. Under such circumstances an inspector naturally becomes suspicious and doubly strict; and here, as in many other cases, bad discipline tends to bring its own punishment.

107. What is the disadvantage of bad discipline? How is good discipline necessary for the pupils? How is it necessary for the teacher?

108. What should be the characteristics of the rules laid down for the government of the school? What course should the teacher adopt once the rules are laid down?

109. What kind of teachers are the best disciplinarians? What kind of

schools are found to be the best disciplined? What are the evils of overstrained discipline?

110. How may a teacher become a good disciplinarian?

111. Show how the conduct of children at Inspector's examination is a test of discipline.

## 2. NOISE AND SILENCE.

**112.** A school that is very noisy is not well conducted; there cannot be real effective work without at least moderate quietness. Noise is a habit both with the teacher and with the pupils, but it originates with the former. **A noisy teacher makes a noisy school;** and if the pupils make unnecessary noise, it is because the teacher sets the example, and because he listens, without concern or uneasiness, to noise made by others. If the teacher give himself the habit of speaking invariably in a gentle, quiet, conversational tone of voice, the children will naturally imitate him, and all the work of the school will be carried on with the same quietness.

But the teacher should besides economise his voice for his own sake. He has to talk continuously for four or five hours a day, and if he is in the habit of shouting at the top of his voice, his chest is sure to suffer under the strain, and his health is likely to break down.

**113.** In many very badly governed schools, the teacher lives in the midst of everlasting noise, that drowns all business and distracts all attention. He never knows the luxury of a silent moment, except perhaps occasionally when the din rises to an intolerable pitch, when he suddenly either shouts out "silence!" or deals the desk a deafening blow of a pointer. This is sure to be effectual; there is an instantaneous lull, which lasts perhaps for half a minute. The noise soon begins, and gradually rises to its former intensity, to be again repressed by a similar, or perhaps by a worse, process.

All this, which from habit is regarded by the teacher and pupils as very natural, appears to a visitor unac-

customed to it, not only injudicious, but very ludicrous. The case is still worse if the school be small: what can be more ridiculous than to hear a teacher talking, and the children answering at the top of their voices, in a room not much larger than an apartment in an ordinary dwelling-house.

**114.** If noise be established in a school, it requires some vigilance and determination to eradicate it. Let the teacher begin with himself; let him avoid all loud talking, and divest himself of the habit of addressing instructions to children at the far end of the room. All boisterous conversation should be strictly prohibited. Above all, suppress that odious custom of shouting out complaints to the teacher on every provocation: the prevalence of this practice is an infallible sign of imbecile government.

**115.** The desk lessons proper should be carried on in **perfect silence**. They may however be a fruitful source of noise if the children be allowed to indulge in unrestrained conversation. At these, as well as at all other lessons during the day, the best remedy for noise is to keep the pupils well employed. Those children that have got nothing to do are always sure to be the noisiest, as well as the most mischievous.

**116.** The teacher ought to have some **signal for silence** which should be universally understood. A bell is very well adapted for this purpose, but it should not be rung continuously; a single stroke should be sufficient. A tap on the desk with some hard substance—a penknife or the end of a small pointer—will answer equally well. The most convenient signal of all is a light tap of one hand in the palm of the other. Whatever the signal may be, **three points** are to be attended to: it must not be louder than is necessary for the purpose; it must not be louder at one time than at another; and the pupils must be trained to yield **instant obedience** to it: its effectiveness depends on the quickness with which it is followed by perfect silence. All business should be suspended and silence

preserved till the teacher has issued his instructions, and gives the word "Go on!" But many teachers when they give the signal are too impatient to wait for perfect silence; and they give their orders while there is still a hum of noise, which destroys the effectiveness of the signal and makes it quite useless. A signal of this kind, when the pupils are thoroughly subjected to its influence, is one of the most effective aids to the preservation of order and discipline in a school.

**117.** It may be remarked here that not only in this case of a silence signal, but in all others, the teacher should as a general rule **never issue any order more than once** on the same occasion. The teacher who is in the habit of reiterating his commands is never promptly obeyed; the children expect a second order, and consequently pay no attention to the first; and when the second comes they treat it in a similar manner, because they expect a third. What can be more disagreeable and distressing than to see a teacher endeavouring to gain attention and force obedience by shouting, stamping on the floor, striking the desk, &c.?

When the teacher wishes to address the whole school, he should wait till he has procured absolute silence—every child listening; if he address the school while there is noise, half the children are not attending to him at all, and the rest are rendered indifferent by that very fact. He should moreover always issue his directions, not lightly or carelessly or indistinctly, but clearly, firmly, and with a proper degree of emphasis; and he should carefully train the children to obey a single order on the instant, **till obedience has grown into a settled habit.**

**112.** What generally causes a school to be noisy? In what manner should the teacher speak? What are the several reasons why the teacher should speak in a quiet tone of voice?

**113.** Describe the proceedings often witnessed in a very noisy school.

**114.** If noise be established in a school, how is it to be suppressed?

**115.** In regard to noise, how should the desk-lessons proper be carried on? What is the result of leaving children unemployed?

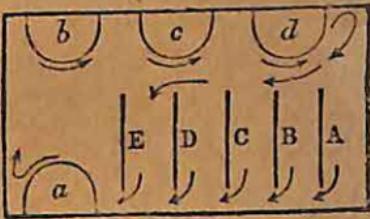
**116.** Describe several signals for silence. Which is the best? What is the use of a signal for silence? What are the three points to be attended to in a signal for silence? What is it that usually makes signal ineffective?

117. What are the evil results of the habit of reiterating orders on the same occasion? When the teacher wishes to address the whole school, how should he proceed? Show the evil results of addressing a school while noise is going on. In what manner should a teacher issue his directions?

### 3. MOVEMENTS; MARCHING.

**118.** When a school is conducted in accordance with any of the systems already described, all the classes change places at short intervals during the day. It becomes the teacher's duty to see that these movements be performed in a proper manner, otherwise they will prove a fruitful source of noise and confusion.

If there be walking passage all round the desks (as in fig. 2, page 25), the two divisions (bipartite system) can change places without any difficulty, if the following directions be carried out. The draft that stands at *d* will sit in the front desk, and the other drafts, *c*, *b*, *a*, will fill up the desks D, C, B, A, in succession. It depends on the teacher whether the highest draft of the division stand at *a* and the lowest at *d*, or the reverse; in the former case, the high draft will sit towards the back desk A, and in the latter in the front one E. But in whatever order the drafts of one division stand and sit, the drafts of the other division must stand and sit in the same order.



The movements can be easily understood by the directions of the arrows. Both divisions move simultaneously. The children in desk E move first (following class *a*), till they arrive at *d*, where they fall into their places; they are followed in succession by those in desks D, C, B, A, the whole forming one continuous line. The pupils of the drafts should also, in marching, form one line. The desk E will be vacant by the time class *d* have arrived at it, and so with the other desks. The whole change, *from the cessation of one lesson to the*

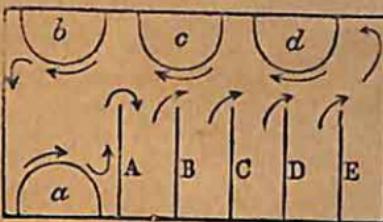
*beginning of the next*, should not occupy more than one or two minutes.

**119.** If the ends of the desks be against the wall, a different plan must be adopted. Here the order of the drafts when they sit in the desks must be reversed : those that stand at *a* sit in the front desk, and the other drafts occupy *B*, *C*, &c., in succession. In this case also both divisions should move simultaneously ; those in desk *A* move first, and proceed down along the ends of the desks towards the circle *d*, where they turn up and walk along the wall, passing the circles *c* and *b*, till they arrive at *a*, where they take their places. They are followed by desks *B*, *C*, &c., the whole forming one line. At the same instant that those in desk *A* have begun to move, the children in the four drafts begin also to move simultaneously in the directions of the arrows.

By the time draft *a* have arrived at the end of the desk *A*, this latter will be vacant, and so of the others ; the draft pupils will fill up the desks in succession.

Whoever reads and understands the above instructions will find no difficulty in changing the positions of the three divisions in the tripartite system.

**120.** In all schools, except perhaps the smallest, the children should be taught to march. Very little extra time need be devoted to it ; the ordinary school movements will afford a sufficient amount of practice. To teach children to march, though not a very difficult task, yet requires some attention and perseverance. Their step must be **quiet** and **natural** ; they must not be allowed to raise the feet high and strike them heavily on the floor. They should not touch or push or hold each other by the clothes ; they should maintain a proper position, standing straight, with hands either behind their backs or by their sides, and they must



march in one continued regular line, leaving no gaps. In every one of these particulars, they will go wrong if the teacher be not on his guard.

118. Show by a diagram, and describe the manner of making the movements in a bipartite school, when there is walking passage all round the desks. In what time should the whole move be made?

119. Describe also—using a diagram—how the move is made if the desks stand against the wall at one side.

120. In what schools, and to what extent, should marching be practised? What time should be given to it? In order to teach the children to march properly, what are the points to be attended to?

#### 4. CHANGE OF LESSONS; PLAY.

**121.** The termination of each lesson ought to be announced by the signal for silence. One lesson should not encroach even a minute on the time of another; at the signal therefore all business should at once cease, the children, monitors, &c., should remain motionless, looking at the teacher, and there should be perfect silence for a few seconds, till the first order for business is given. All necessary preparations for the change should be made at the order of the teacher, or of the person in charge. If slates be in the hands of those in drafts, they should be collected by the first boy in each draft at the order "Collect slates!" The copy-books and pens should be collected in like manner, if a division have been writing. If the pupils in the desks have slates, they all drop them together into the apertures at the word "Slates in!" All those in desks will stand up together at the order "Out!" When all is ready, the pupils of the different drafts and divisions begin at once to move towards their respective places at the word "March!"

**122.** The pupils falling into drafts should do so quietly and regularly, taking their places at once, without rushing towards the circle or pushing each other. And if they require slates, the monitor of each draft, or the head boy, should distribute them as noiselessly as possible.

The pupils going to the desks remain standing opposite their seats till the word is given to sit down. And when they have sat down they must not be permitted to snatch up books, slates, &c. ; they should keep their hands off the desks, and whatever they require for the next lesson they should take up all together, at the order of the person in charge. It will be best if all these movements are carried out by a few well-understood signals, which every teacher can invent for himself. Signals are better than verbal orders, for several reasons : they conduce to silence, they spare the teacher's voice, and the children like them better and learn to obey them more quickly. This, combined with marching, is drill, and drill of the most profitable kind ; for while it improves the bearing and habits of the children, it facilitates the work of the school. The teacher should however **avoid all unnecessary refinement** tending to loss of time, always bearing in mind that arrangements of this kind should be introduced chiefly for the sake of order and despatch.

**123.** The drill described here should of course be carried out in female schools as well as in those for boys. But in addition to this, there is a special kind of drill for girls, commonly known by the name of **calisthenics**. It consists of certain graceful and quick movements of arms, body, and feet—in obedience to signals—which it would be impossible to describe here, and which must be learned from another by any teacher who wishes to carry it out. Besides other advantages, it is a healthful exercise for girls, tending to develop the muscles of the arms and to expand and strengthen the chest. It is extending very much in girls schools, and every female teacher, if opportunity offers, ought to learn it and practise it in her school.

**124.** The teacher will see that the next lesson be **commenced without a moment's delay**. There is always a strong tendency, on the part of both monitors and pupils, to idle away a few minutes at the beginning of a lesson ; this is a very trifling matter if it

occur only once or occasionally, but if repeated at the beginning of each lesson during the day, it becomes a serious item. By banishing this custom the teacher effects a double good; not only does he gain a considerable amount of time, but what is still more important, he trains his pupils to the valuable habit of turning every moment to some account.

**125.** In every well-regulated school there ought to be half an hour's relaxation every day. If for any reason the children cannot be sent out to play, then there should be simply a cessation from business for half an hour, during which the pupils can take lunch or amuse themselves, without being allowed to make too much noise; but if at all possible they should be sent out to breathe the fresh air and to allow the school-room to be thoroughly ventilated.

These observations are intended for schools where the pupils are punctual and regular in their attendance; if in any particular school they either attend very irregularly, or are in the habit of coming late in the mornings—which is sometimes the case in thinly populated districts, where many of the children have to walk long distances, and not unfrequently in better circumstanced schools conducted by careless teachers—in such a school, it may be questioned whether there should be any time set apart for play.

I have already observed (Paragraph 88) that the teacher should be always in the playground while the children are at play, and should have his eyes constantly about him. I refer to the matter here again in order to impress the teacher with its vital importance.

**126.** At no time during the day are children so much inclined to rudeness and noise as when they are coming in from play; and the teacher therefore will find it necessary at this time to be specially on his guard. They should not by any means be allowed to rush promiscuously to their places in the school, according as they arrive at the door. Five minutes before the

termination of playtime, the bell should be rung and the pupils collected in the play-ground, in ranks according to their classes. They then march in order into the school-room to their respective places, and this movement should be performed with as much quietness and regularity as any of the ordinary movements during the day. The pupils should be *all* at their places and actually beginning to work, at the time mentioned in the time-table for the beginning of the lesson following play.

121. How should the termination of each lesson be announced? What should take place at the signal? What preparations should be made for the next lesson?

122. In what way should the move be carried on? How should the pupils going to the desks act? To what extent should a teacher adopt arrangements, plans, and signals for mechanical management of school? Superiority of signals? What is drill? Advantages of the drill described here?

123. What are calisthenics? Of what does this kind of drill consist? Its uses.

124. Why should a teacher be particular to allow no delay between the end of one lesson and the beginning of the next?

125. What amount of time should be allowed for play? Why should there be play at all? If the children cannot go out to play, what should be done? In what class of school might no play be allowed? What should the teacher do during play?

126. What particular precautions are necessary when the children are coming in from play?

### 5. CAPS; CLOAKS; SATCHELS; ETC.

**127.** A school-room in which the pupils are allowed to place their caps wherever they please will always look unsightly and slovenly. Caps are seen in all possible places—on the forms, under the desks, in heaps on the window-seats, and hanging from stray nails here and there on the walls. This may be avoided by the adoption of some simple means of disposing of them.

One of the most obvious plans is a cap-rack, the construction and position of which are described in Paragraph 12. According as the pupils come in they hang up their caps, the lower crooks being appropriated to the little children. Once hung up, the caps should not be removed till play time; the pupils are then marched past in single file, and each as he passes picks up his

own. The teacher or monitor should stand by the rack at this time to prevent irregularity. Returning from play, they hang them up again, and at dismiss are marched past as before. In a large school, the best way perhaps to manage caps is to let each boy keep his own suspended round his neck by a string, or in any other manner he may find most convenient.

In a female school it will be better to place some sensible girl in charge of the rack, to take the cloaks from the girls as they arrive, and to arrange them. If they be permitted to do this for themselves, the cloaks will always be thrown here and there in an untidy manner, and will take up much more space than is necessary.

**128.** Every boy should be provided with a satchel, which should always be suspended from his shoulder, and in which he should keep all the books required in daily use, so as to have them constantly ready at hand. At the change of lessons no boy should be allowed to leave his place for an instant to look for books or for anything else. In the absence of a leather satchel, a small bag made of calico or green baize, with a long running-string, will answer very well. Many boys prefer a strap with a buckle, which also answers the purpose, though not so well, as it is troublesome, and besides, injures the books unless they are protected by a pair of thin boards. In a female school, each girl should have a **neat bag or a little basket**, which she should always keep in her hand or suspended from her arm.

Some may perhaps consider the inculcation of such simple matters unnecessary, as being sufficiently obvious to every teacher; but whoever is practically acquainted with the working of the generality of ordinary schools will think otherwise. It is in fact precisely the neglect of such apparently trifling matters that chiefly constitutes the worthlessness of many of the worst kinds of schools; and this subject of satchels affords a good illustration. How often will you see a school thrown

all at once into a state of utter confusion by the announcement of a change of lessons! Because the pupils, instead of being obliged to keep their books always by them, are allowed on their arrival in the morning to deposit them here and there through the school. The announcement is therefore followed by an immediate and universal search, and after much confusion, noise, and jostling, the school in eight or ten minutes settles down in its new phase.

**127.** How does a schoolroom look in which pupils are allowed to put their caps, books, &c., where they please? How should the children hang their caps on the rack on arrival? When the children are going to play, or home, what arrangement should be carried out in regard to caps? In very large schools, show how caps may be managed without a cap-rack. Describe the arrangements for the proper regulation of the rack in a girls' school.

**128.** What plan should be enforced to ensure that each pupil shall have all necessary books, &c., ready at hand? Supposing the pupils to have no straps or satchels, what generally is the result?

#### 6. SLATES; PENCILS; COPY-BOOKS, ETC.

**129.** It has been already stated that there should be as many slates as pupils. The best of the slates should be left in the desks (which should of course be furnished with apertures), *and these should never be removed*; they should remain in the desks so as to be always under the hands of the pupils when they require them at the desk lessons. A dozen slates should be set apart for each draft circle; they should be kept in some place at or near the circle, *and never removed, except for the use of the proper draft.*

**130.** As in case of slates, so also with slate-pencils, a full supply should always be left on the desks for the use of those at slate lessons. At the end of the lesson, the pupils, at the word "Pencils down!" should deposit them in the grooves. For the floor exercises the pupils might use their own pencils, which may be either long or short. If the desks be not furnished with grooves, the pencils might be kept in a little box, which should be in charge of the monitor or of some careful boy. At the beginning

and end of each desk exercise they should be distributed and collected by the first boys in the desks, who are supplied by the boy in charge of the box. But in any large school the teacher may find it a better plan to make each pupil keep his own pencil.

**131. Not more than half an hour** should be allowed for the writing lesson; if there be well-planned arrangements for distributing and collecting the copy-books, not more than two or three minutes will be lost, so that the pupils will be actually engaged in writing for at least twenty-seven minutes. On the cover of each copy-book should be written, in a large legible hand, the owner's name and the draft to which he belongs.

The copy-books belonging to the different drafts should be placed in separate compartments in the press, and should be carefully kept from mingling with each other. The best plan is to keep those of each draft tied between two boards; this effectually separates them, preserves the books in proper shape, and prevents the corners from turning up. There should be a distinct compartment for the books belonging to pupils who have been for any considerable time absent; these of course need never be distributed, except when some one who has been away returns to school.

**132.** When the time for writing has arrived, and after the divisions have changed places and the writers have taken their seats, the monitor places the copy-books belonging to each draft in the hands of the first boy, who, without calling names, and as silently and quickly as possible, places each before the owner. Or what is perhaps a better plan, the books are distributed while the pupils are still standing at the draft circles, immediately before moving to the desks. In this case the boy distributing walks behind the class, and silently puts each pupil's book into his hand, without interrupting the business that happens to be going on. (But pens should not be given out in this way for fear of accidents). The books belonging to the boys who hap-

pen to be absent on the particular day should be taken back immediately to the press, and replaced in the proper compartments, or between the boards. If the discipline be good all these preliminaries will not occupy more than one or two minutes.

At the end of the lesson, when "Time up!" is announced, each boy wipes his pen dry, and having dried the ink on the lines last written, closes his copy-book.\* The same boys that distributed now collect the books, and the monitor brings all to the press, placing those belonging to the different drafts in the proper compartments.

129. How should the school be kept supplied with slates? What arrangement should be adopted so that the slates may be always ready at hand in desks and drafts?

130. Describe the arrangement for the slate pencils used in desks.

131. What should be the length of the writing lesson? How much of this should be actually spent in writing? Where should the copy-books be kept? In what order should they be kept? As to those pupils who have been long absent, where should their copy-books be kept?

132. Describe the arrangement for distributing and collecting the copy-books. What time should the distribution of copy-books occupy? Show how copy-books may be distributed immediately before the signal for change

## 7. SCHOOL-ROOM; Demeanour of Children.

**133.** The teacher should be most careful as to the cleanliness and general appearance of the school-room; it should be swept every evening after school, and the furniture, &c., dusted in the morning. During the day the room should present a neat and orderly appearance; no books, slates, or caps should be seen scattered here and there, or thrown in heaps on the desks or window-seats. If the rules already laid down for the management of caps, satchels, slates, and copy-books, be strictly carried out, this can scarcely occur. The walls should not be neglected. The pictures, tablets, Commissioners' Rules, &c., should not be hung on stray nails driven in

\* Either there should be a supply of blotting-paper in the school—a small bit being given to each pupil to keep in his copy-book—or each should supply himself with a halfpenny cover.

all possible directions: they should be **suspended in rows**, and at regular distances, on tablet rails, and they should, as far as possible, be placed symmetrically.

**134.** The manner of hanging the maps will require some consideration. In many schools pulleys are used: they are very convenient, as the maps can be taken down without delay when required for use. If pulleys cannot be had, a much simpler and equally convenient contrivance may be adopted. A piece of whicord is attached by its ends to the two rings of each map, by means of which the map can be suspended from a strong nail driven into the wall at the proper height. A pole of sufficient length, with a little fork in the end of it, will answer quite well for taking them down and hanging them up. A map should never be hung by driving two nails through its two rings into the wall; this renders it practically immovable.

Whatever mode of suspension is adopted, one thing should be always kept in view, that every map should be capable of being taken down and put up again without the slightest difficulty or delay. The cords should therefore be all tied in what are called *running knots*. The large maps should be hung pretty high, so as to be over the tablets and smaller pictures, and they should be left open during the day, as children learn the forms of the countries insensibly by constantly looking at them.

**135.** There are certain disagreeable habits contracted by many children, which, though they do not deserve the name of bad conduct, may yet be very offensive, and injurious to the discipline or cleanliness of the school. Such for instance is the custom of eating bread during the time of lessons: play hour is the proper time for lunch. So also the very disagreeable habit of yawning, which indicates either weariness or laziness and is always unmannerly; a boy may be obliged to yawn, but he should hide it. A pupil should not be allowed to keep his hands in his pockets, to stand in a lazy or lolling posture, to spit on the

floor, to lean on the shoulder of his neighbour, or to rest his shoulder against the wall while standing at his lessons.

**136.** The teacher should teach the children good manners and politeness, not only towards himself but towards each other. He should train them to address each other gently and considerately, and should encourage—on the proper occasions—the use of such words as *please*, *if you please*, *thank you*, *yes (or no) sir*, *I beg your pardon*, &c. It would be of course easy to carry these things too far, so as to make them ridiculous; but any teacher of common sense will know how far to go and where to stop. It is hardly necessary to add that if the teacher wish his children to be polite, he must himself set the example.

133. How often, and when, should the school-room be swept and dusted? What appearance should the school-room present during the day? How should the tablets, Commissioners' rules, &c., be hung?

134. How should maps be hung? If there are no pulleys, what is the best way to manage them?

In all modes of suspension, what is the particular point to be kept in view? Why should maps be left open during the day?

135. What attention should be paid to the personal habits of the children? Mention some disagreeable habits that should be guarded against.

136. How far should the children be taught politeness? How is it to be done? Precautions?

## 8. ATTENDANCE.

**137.** The irregularity of the children's attendance is an almost universal source of complaint with teachers. In this respect they are generally but too well justified, as the parents often keep their children at home on the most trivial occasions. In any individual case however it is unquestionable that the degree of regularity greatly depends on the character of the teacher and of the school. Excessive irregularity is frequently assigned as the cause of the low state of the school, but it is sometimes the effect; for both the parents and children naturally become indifferent where the discipline and instruction are of a worthless character. On the other

hand, a good, cheerful, popular school exerts a kind of attractive influence over the children; they are less apt to be kept at home, because they are themselves anxious for school, and they attend not only in greater numbers, but also with increased regularity.

While all ordinary schools then must, in the absence of legislation, submit to the evil of irregular attendance, each individual teacher may undoubtedly, so far as his own school is concerned, do something to remedy it; in the first place, by making his school popular, and in the second place, by constantly communicating and reasoning with the parents.

**138.** Another most fruitful source of annoyance, especially in rural schools, is the want of punctuality of the pupils in their morning attendance. While suppose 10 o'clock is marked on the time-table for the beginning of the first lesson, it is quite usual to see the pupils dropping in singly and in groups till near eleven; and they may be observed on the roads, loitering along towards the school quite unconcerned, though it is already after 10 o'clock.

Among the many circumstances that may be considered indicative of a badly conducted school, this, when allowed to run to an extreme, is perhaps the most infallible of any. The unpunctuality of the children is almost always the consequence of **indifference or want of firmness and vigilance** on the part of the teacher. Children, if left to themselves, will never be punctual, no matter how late the hour for commencing business. If they are not made to understand practically the evil of late attendance—if they are allowed to walk into the school and take their places at all hours, while the teacher shows no concern and makes no inquiry—the natural and inevitable consequence will be utter indifference and hopeless irregularity.

**139.** To ensure punctuality the teacher must himself set the example in his own person, by being present every morning at least half an hour before the time assigned

for the beginning of business. Besides this, he must be unceasingly vigilant; every boy who comes late should be called to account and obliged to explain the cause. In short the teacher should bring all his influence to bear on both parents and children in order to ensure punctuality.

137. Show that irregular attendance and a bad state of the school act and re-affect on each other. How may the teacher mitigate irregular attendance?

138. Show the evil of unpunctuality. When there is great unpunctuality what conclusion may we draw?

139. What steps are necessary to ensure punctuality?

## PART II.

### METHODS OF TEACHING.

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#### CHAPTER I.

##### GENERAL OBSERVATIONS ON METHOD.

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###### 1. THE BEST METHODS.

**140.** The best teaching is that which leads the child to think or work so as to acquire knowledge or conquer difficulties by his own effort. The best teacher is he who makes the child do most for himself. But this must be done, not by severity or coercion, but by gentle and persuasive management. In the process of teaching, the teacher should be the guide; and he should direct the child's mind in the process of discovery or self-learning, by encouragement, by questioning, by illustration, and by sympathy. He should teach the child how to think, and should lead him to love work for the love of knowledge and for the pleasure of overcoming difficulties. There are many methods and many plans employed in teaching individual subjects; but the principle here enunciated is the widest in its application, the most far reaching in its influence, and the most important of all.

**141.** The teacher will indeed in the process of teaching, have to tell the child many things, and will often have to give a helping hand at work. But it is a good general rule not to tell him anything that he can, under the teacher's guidance, make out by his own effort.

and not to do anything for him that he can do for himself. What the child does for himself he will retain : what the teacher does for him he will easily forget.

**142.** Those teachers that are always helping children, who talk much to them, who are continually telling them things—pouring oceans of facts into their ears—are bad teachers : they take the very worst way of communicating the knowledge they wish the children to acquire.

**143.** These maxims hold true for every part of the school work—reading, writing, spelling, transcribing, dictation, arithmetic ; as well as for all the higher work. They hold equally true for oral and written lessons.

If the lesson be oral the teacher must generally so frame his questions as to call for **an effort of thought or memory** on the part of the pupils ; and if it be a written lesson he must train them **to face their difficulties manfully** and to work unaided so long as they see a chance of succeeding. In both cases he watches narrowly for stumbles or failures, making the children set themselves right whenever possible, and giving help only at the last moment, when there is a hopeless break down.

**144.** This does not mean greater ease for the teacher ; on the contrary, teaching of this kind is by far the hardest kind of teaching on him ; for his mind is continually on the strain watching the progress of the pupils, and there is a constant demand on his skill and patience.

**145.** The foregoing observations apply to all children of whatever age. But the teacher must use his power and influence with discretion. He must not expect as much effort from young children as from those that are older and stronger. In his desire to throw work on his pupils he must take care not to overtax the tender immature minds and bodies of young children, by making them work or think either too severely or too long. The work imposed on them should be of a very light and simple kind, calling for gentle effort, not

intense application, and it should never be so prolonged as to weary them.

**146. Education and Instruction (or Information).**—To teach in the manner pointed out in this Section is to **train** or **educate**. The word *educate* literally means to lead or draw forth, so that it exactly expresses the most important function of the teacher. To **instruct** on the other hand is to put knowledge into the mind. Instruction may be accompanied with little or no education, as when a teacher tells everything to the child. But on the other hand education is always accompanied with instruction, for the child under the teacher's guidance not only exercises and thereby strengthens his mental powers, but also by this very exercise lays up information.

Instruction gives information, but there its function mostly ends. Education gives information also, but it does more—something more important—**it calls forth power**—power which will afterwards help the child to obtain information for himself. If I tell the children that the central part of Asia is a high table land, sloping down on all sides—this is information, and so far valuable. But if instead of telling them this, I direct their attention to the great rivers flowing north, south, east, and west, and then by a skilful series of Socratic questions (Paragraph 160) get them to infer that the middle part is a table land elevated high over the outer edges: this is education. And this gives them not only knowledge but power, for they will afterwards be able to find out for themselves, at least in a rough way, the highest parts of most countries by observing the flow of the rivers. But as the children could never, by any process of questioning, infer the height of this plateau, the teacher has to come in with a piece of mere information, and tell them the average height.

In the ordinary routine of school work there must often be instruction—the giving of mere information—without much of an educative tendency. And

this must not be undervalued; for it is a good exercise for the mind and constitutes a large part of the school teaching. At the same time the good teacher instructs by educating, whenever he finds the opportunity.

**147.** *Inductive and Deductive Teaching.*—We reason by induction when we draw general conclusions from our observation of particulars. Thus we find that heavy bodies when set free fall to the ground. This has happened so invariably that we have come to believe that things we have never handled will fall like those we have tried. It has happened in all countries where it has been tried, and we believe it will happen also in countries yet undiscovered. So we draw the general conclusion that *all* heavy bodies when set free will fall to the ground.

**148.** Deduction is the reverse of induction. We reason deductively when we go from a general principle to particulars. Thus I am acquainted with the general principle that if the sum of the squares of two sides of a triangle be equal to the square of the third side those two sides will form a right angle. Then if I take three lines 9, 12, and 15 inches long respectively, and make a triangle of them, since  $9^2 + 12^2 = 15^2$ , I am quite sure, even without testing, that the angle formed by the two shorter sides will be a right angle.

**149.** In induction we are said to reason upwards, as a general principle is of higher importance than a particular proposition: in deduction we reason downwards.

**150.** The mathematical sciences are chiefly deductive; because from general principles, such as axioms, we prove particular theorems. The physical sciences are chiefly inductive: because from the examination of particular bodies we draw general conclusions or lay down general laws, like that illustrated in Paragraph 147. So also we have found that all those metals we have tried are fusible: and we thence conclude that those metals not yet discovered are fusible.

**151.** Induction and deduction are continually used

in teaching. Thus, suppose you begin to teach pronouns to third class children in this way. You write on the blackboard, "John wrote John's copy with John's own pen" and you ask the children do they like that way of saying it. No. Why? Because John comes in too often. Could you put anything in the place of the noun *John's*? Yes, *his*. Then having written the sentence with *his* instead of *John's*, you tell the children that the word *his* which stands for the noun *John's* is called a pronoun. So far we have only the particular noun *John's*. But having given one or two additional examples you go farther at the next step, and enunciate the general proposition "any word that stands for a noun is called a pronoun." This is inductive teaching. Of course in actual teaching there must be much more expansion and illustration than is indicated above; and after the enunciation of the general principle a great many examples of the use of pronouns must be given.

**152.** A great part of grammar teaching is however deductive. For example the children are acquainted with the general proposition that a word that qualifies or limits a noun is an adjective (which has been arrived at inductively). Now they come across the words "viperous slander." They have probably never seen *viperous* before, but when they bend their attention on it for a moment they see that it qualifies *slander*. So this particular word comes under the general principle, and they at once pronounce it an adjective.

**153.** In arithmetic, when the teacher, having worked several examples of the same kind, leads the children to make out and express a general rule, the teaching is inductive. Teaching from the ball-frame is inductive, because you lead the children to carry the application of numbers from the balls to other objects, and from that to abstract numbers. But if the teacher start with a general rule, and lead the children to work some particular question in accordance with it, this is deductive teaching.

140. What is the best kind of teaching? Proper functions of teacher? Importance of this principle?
141. A good general rule as to *helping* and *telling* children? Difference in memory of self-work and teacher's work?
142. Describe a bad type of teacher in relation to *helping* and *telling*.
143. Show how the principle of self-work applies to all subjects? When is the teacher to come in with help?
144. Show that this kind of teaching is not rest or ease for the teacher.
145. Precautions as to self-work in case of young children. Kind and length of young children's work?
146. Explain the distinction between education and instruction. Illustrate by an example. What two results does education produce? How does a good teacher deal with education and instruction? Show how far the ordinary teaching must be mere instruction.
147. Explain induction and give example.
148. Explain deduction: example. How are the two related?
149. How are we said to reason in induction? Why? In deduction?
150. Why are the mathematical sciences deductive? To which of the two kinds do the physical sciences belong? Examples.
151. Show how induction applies to teaching. Give an example of inductive teaching.
152. Give an example of deductive teaching in grammar.
153. Give examples of both inductive and deductive teaching in arithmetic.

## 2. INTERROGATIVE AND AFFIRMATIVE METHODS

**154.** No teacher would think of teaching a lesson exclusively by a lecture. For children, at least, lecturing, when not accompanied and broken up by frequent questioning, is all but worthless.

Neither the method of interrogation nor the method of lecture can be used exclusively; good teaching consists in a judicious combination of both. A teacher will find it constantly necessary to state facts to the children, but he should immediately after, or during the course of the lesson, question them on these very statements; the fact-statements without the subsequent interrogation generally go for nothing, and the longer they are, the more certain of being immediately forgotten. It is vain to attempt to throw blame on children who are found ignorant of certain subjects they ought to know, by asserting that they have been often told all about it; if the teaching consisted in merely *telling*, even though the process is gone through sufficiently often, the blame assuredly does not rest with them.

**155.** It is only by making the children repeat the facts and reasoning in their own words, that the teacher

can be certain they are thinking. The amount of knowledge they receive is measured, not by what he tells them, but rather by what he contrives to make them state to him in answer to his questions: the surest way to make a child remember a fact or statement is to make him repeat it. Frequent interrogation and repetition therefore are the best and surest means of imprinting permanently on their memories the subject matter of the lesson.

**156.** The teacher should study the art of questioning; for much skill is required to put questions properly, and much of the efficacy of the teaching depends on them. A question should be short, simple in language, and perfectly clear; and it should admit of one—and only one—definite answer. Questions should not be such as can be answered by simple *yes* or *no* (though occasionally this may be necessary); and it will be better not to frame a question so that it can be answered by a single word, though this too is sometimes necessary. (See Paragraph 177). A question should not suggest the answer. Put the question plainly and do not talk unnecessary verbiage—such as “Can anyone answer me this—” “Hands up all who can tell me—” “That’s very well—now for the next question—” “Who knows whether—” &c. Do not too often put a question this way—“Prepositions and transitive verbs govern nouns and pronouns in the—,” where the children are expected to supply the last word or words; and do not frame a question so that it will end in the word “What.”

“One of the best tests of a good question is the relation between the number of words employed by the teacher and the pupil respectively. If the teacher does all the talking and the pupil only responds with single words the questioning is bad. The great object should be with the minimum of your own words to draw out the maximum of words and of thoughts from him” (Fitch’s Lectures on Teaching, p. 167).

**157.** The classes of questions used in teaching are

chiefly three :—**questions of repetition, questions of examination, and questions of instruction**, or “Socratic” questions.

**158.** (1). For the purpose of mere repetition, the teacher, as I have just said, must keep continually questioning the children even on those subjects they know, but which may require a clearer conception or a firmer hold on the memory. A well-timed question will revive the impression of a fact that is just beginning to fade from the mind, and restore it with more than its original distinctness. Question the children on what they know, in order that they may know it better; and while doing this, you will find out what they do not know, or know only imperfectly.

It may be observed that questions of this class constitute a large proportion of the ordinary everyday teaching of the school. Take for example the Lesson Books. The pupils, after reading the lesson on “Jacob and Esau,” have a sort of hazy, indistinct, inexact knowledge of the various matters related in it. The teacher goes through it with a series of rapid questions, not so much to ascertain whether the pupils know it, as to make them repeat what has been imprinted with a feeble hold on their memory, and to correct their errors and misstatements; and by the time the lesson is ended, the feeble lines have been deepened; the hazy picture has become distinct; and the children have a clear and connected knowledge of the subject matter.

So with all the other school subjects. The teacher is continually questioning on what he is well aware the children have already some knowledge of—what he has himself taught them, or what they have learned in a sort of way from their books—in order that this half-faded knowledge may be revivified and take a firm hold on the memory.

**159.** (2). Questions of examination, as the name implies, are employed not for the purpose of giving instruction, but merely to ascertain the extent of the children’s knowledge. They may form a connected

series, or may be mixed and scattered according to the taste of the examiner. In the ordinary school routine, the teacher will often have to use questions of this kind :—in examining home lessons or “tasks,” in examining for promotion or classification, and often to test the children’s knowledge on some particular point, when teaching the common school lessons.

**160.** (3.) Questions of instruction, or teaching, or training questions, form another very important class ; they are often called “Socratic questions,” because Socrates usually employed them in his instructions and reasonings. They are chiefly intended to direct the thoughts of the children on the subject under consideration—to oblige them as it were to exert their reasoning powers, that they may as far as possible by their own reflection, infer those very facts or conclusions the teacher wishes to communicate to them. The questions therefore generally ought to be such as they can answer, and whenever one occurs too difficult for them, the teacher should put it in an easier form, or if necessary lessen the difficulty by a few introductory questions, or by breaking it up into several easier questions. The questions will in many cases depend on and be suggested by the children’s answers ; each answer serves as an index to show their progress in the reasoning, and the teacher determines the nature or graduates the difficulty of the next question accordingly.

It must not be supposed that the teacher will in all cases be able to draw forth by mere questions everything he wishes to teach. He will often be obliged to adopt the affirmative instead of the interrogative method; in other words, he will have to make direct statements of facts or draw the conclusions for the children himself. Mere matters of fact, when occurring for the first time, cannot, from their very nature, be taught by interrogation. In other cases the reasoning may be occasionally so difficult that the gain of making the children answer is not worth the trouble. In these and all such

cases the teacher will have to state affirmatively what he wishes to communicate; and thus the whole lesson will consist of a series of questions interspersed with explanations and affirmative statements, the relative proportions of each depending on the particular subject, and on the knowledge of it previously possessed by the pupils.

**161.** In all ordinary lessons on the common school subjects **the three classes of questions are combined**: the teacher using one or another as his judgment directs or as the state of the pupils' knowledge, as indicated by their answering, renders necessary. But it commonly happens that the conclusion of the lesson—the recapitulation or general and final survey of the whole ground covered—consists chiefly of a series of questions of repetition, intermingled however with questions of examination, to test how far individual pupils have retained certain facts.

154. What is the value of *lecturing* as an instrument of teaching? How far are the two methods—interrogation and lecture—employed in actual teaching? Is it sufficient to *tell* children facts? What is to be done?

155. What is the true measure of the knowledge children receive in a lesson? What is the best way to imprint knowledge in the children's minds?

156. Enumerate the qualities of a good question. Mention some objectionable forms of questions.

Show that the amount of speaking by teacher and pupil respectively affords a good test of questioning. The great object in view?

157. What are the three classes of questions chiefly used in teaching?

158. What is the object of questions of repetition? In which of these three cases are questions of repetition useful—total ignorance, imperfect knowledge, perfect knowledge? Show the use of questions of repetition in some lesson from the reading-books, in grammar, in geography, &c.

159. What is the object of questions of examination? On what occasions has the teacher to use them?

160. What is the object of questions of instruction? Why are they called Socratic questions? If one of a series of Socratic questions turns out to be too difficult, what must the teacher do? State the cases in which the teacher will have to mix up the affirmative with the interrogative method.

161. How far are the three classes combined in ordinary teaching?

### 3. SIMULTANEOUS INSTRUCTION; CLASS TEACHING.

**162.** When a teacher gives instruction to a number of pupils together, either standing in a draft or sit-

ting in a gallery, this is what is called simultaneous, or collective, or class teaching.

**163.** It is a very old observation that a man may be full of knowledge, but yet quite unskilled in the art of conveying it to others; in other words he may be a good scholar and a bad teacher. We may go farther however and affirm that a man may be skilful enough in imparting instruction to a single pupil, but may be quite unable to manage and teach effectively a class of pupils; and he may be able to do this last and not be able to teach and manage a school.

The full teaching faculty then may be considered as made up of four qualities:—

1. Scholarship.
2. Ability to teach an individual.
3. Ability to teach a class.
4. Ability to teach and manage a school.

A man may possess one, two, or three of them (taking them in the above order) without possessing the others, but **to be a successful schoolmaster he must possess the whole four.**

**164.** As to class teaching, a teacher must be able to teach a lesson to a whole class, so that each individual child will learn as much, or very nearly as much, **as if he alone were under instruction.** A class lesson may fail to reach this standard in one or the other of two ways:—either that the amount of instruction imparted to all the pupils falls below the standard; or that the pupils share very unequally in it, some learning much and others little or nothing. Some of the most common faults that lead to these results will now be noticed, and directions given for their correction.

**165.** It is necessary in the first place to guard the teacher against the practice of simultaneous answering, which is usually carried on in the following way:—The teacher puts his questions, not to any particular individuals, but to the whole class; all who are able may answer, and those who are not, commonly chime in with

the others, so that every question is instantly followed by a chorus of answers, which are apparently simultaneous and universal.

To a person unskilled in the art of teaching, this appears a most attractive method of managing a class; it is teaching all together instead of one at a time, and then it is usually attended with great animation. These pleasing features are however purely deceptive; for it entirely fails in individual effectiveness. There are always two or three pupils—seldom more—who are really thinking and answering; all the others are mere parrots, catching up and echoing the answers mechanically, but learning nothing. This is done so quickly that to an unpractised ear the answers appear perfectly simultaneous.

Children, when learning, will not think if they can help it, and here is a ready way of avoiding it. Constantly accustomed to depend on others for their answers, they ultimately lose every vestige of self-reliance, and become incapable of the slightest independent mental exertion. This will be rendered sufficiently apparent by questioning individually and apart a number of children who have been taught in this manner. When deprived of their accustomed assistance, they are bewildered, and incapable of fixing their attention for a moment on the matter before them; they hesitate and blunder, and stammer out the most nonsensical, hasty, guessing answers.

**166.** Simultaneous answering however need not be entirely discarded; there are cases in which it is useful, but then it should be employed with great caution. It is indispensable in an infant school, where it is valuable as a mere disciplinal exercise; it helps besides to rouse the children, and to keep their attention fixed on the teacher. But even here it should never be used exclusively; it should be constantly tested and confirmed by individual questioning, the teacher calling on children from all parts of the class, more especially on those whom he observes to be inattentive.

With the pupils of ordinary national schools, it should be used more sparingly, and only very seldom with the most advanced classes. As a mere mechanical stimulus to attention it might be employed as often as the teacher thinks necessary; but he must never forget its worthlessness as an instrument of teaching.

**167.** There are **two ways of putting a question** in class or gallery teaching. First, it may be given directly to some individual pupil, whom the teacher names or points to; in this case the pupil answers if he can, and if he hesitates or answers wrong, every pupil who thinks he can answer correctly should put out a hand, and the teacher chooses the next answerer from among them.

Secondly, he may give the question to the class generally without naming any one in particular; here no pupil should speak, but all who think themselves able to answer should, as before, hold out their hands, and the teacher names one after another till he gets the proper answer. If the teaching is good and the interest kept up, every question of this kind will excite the same interest in each individual child **as if it were put directly to himself.**

**168.** The pupils should be well trained to this practice of putting out their hands; if not—if they must be told what to do on each particular occasion—the teacher will suffer much loss both of time and words, in giving directions. It is extremely disagreeable to hear a teacher constantly accompanying his questions with “Hands up!” or worse still, “All who can tell, &c., will hold up their hands.” Generally **half or three-fourths** of the pupils should put out hands for each question. If there be only very few hands, the question is not sufficiently simple; and if this occur very frequently the teacher may conclude that the subject, or his way of treating it, is too difficult for the children, that his own lifeless manner has thrown them into a state of listlessness, or that in some other respect his teaching is faulty.

There are some questions that do not call for hands out; as when the teacher observes a child openly listless and inattentive, and asks him in quick succession several of the questions that have been just asked and answered. If he fail to answer, he earns the censure of the teacher; and what is perhaps worse, the eyes of the whole class are on him. There is no more effectual plan than this for wakening up listless children to attention; but if the teacher has his classes in good discipline, the other children will always understand the object of such questions, and will not hold out their hands at the culprit's failures.

**169.** When the teacher puts a question to a pupil, **no other should be allowed to answer**, unless by the usual process of being called on after holding up a hand. This caution is very necessary; for in some schools you can scarcely put a question of any kind to a boy without being instantly answered by another. The practice is disorderly and unmannerly, and as it is in other respects very injurious, the teacher should carefully suppress it.

**170.** The teacher will be careful **not to confine his questions to the best pupils.** This is a most serious fault, and unfortunately by no means uncommon. It is not unusual to see a teacher with a class before him, directing nearly all his questions to a few boys at the head; on these he bestows his whole attention—his interest is entirely centred on them—he is always looking at them during the lesson, and he scarcely ever turns his eyes towards the others. These few favoured pupils monopolise the whole of the teaching, while the rest, neither hearing nor learning anything, fall into a kind of intellectual torpor; they have none of the teacher's sympathies, and they derive little or no benefit from his instructions.

The teacher should most carefully avoid this very unjust and injurious practice. He should give all a due share of teaching; and the dull or indolent boys should be questioned at least as frequently as the others. His

eyes should wander round the class, and should not rest too often or too long on favourite pupils, and as a general rule all the boys should constantly look into his face.

**171.** Besides those who cannot answer, there are generally a few who can, but who, from indifference, indolence, or inattention, will not hold out their hands. The teacher will find no difficulty in detecting such children, partly from the blank expression of their faces, and partly from his previous knowledge of them. The best and readiest remedy he can adopt with pupils of this kind, and one which generally proves effectual, is to ply them well with questions whenever he finds them inattentive. What the teacher must try to accomplish is, **to keep all the children in the class attending to him;** to make sure that their minds are at work—all following him—without a single exception; to make the idler constantly feel that the master's eye is on him, and that the moment he lapses into inattention, he is sure to be startled by a sudden question.

**172.** When a question has been answered correctly by one boy, after being missed by several, the teacher should not rest content with this single successful answer, and pass on to another question. There are few faults in school teaching more general among teachers than this, or more necessary to be corrected. When no responsibility is involved the pupils generally speaking will not trouble themselves to listen very attentively to their neighbours, and so the right answer and the time expended on searching for it, will probably be lost on the greater part of the class. But let them understand that all are liable to be called on to repeat the correct answer, and every child will be listened to with attention. In all such cases therefore the teacher should return on most or several of those who have missed, and make them answer correctly, and should take occasion, during the lesson, to ask the same question at least once again, in order to fix it firmly on their

memories. But he should always guard himself against **losing too much time over a single question.**

**173.** As a general rule, whatever the subject of the lesson may be, the pupils should not be questioned in the order in which they stand in the class; for this is sure to lead to inattention. They should be selected here and there as indicated in the preceding instructions, the teacher's judgment directing his choice on each particular occasion.

**174.** Notwithstanding all precautions as to clearness and simplicity (Par. 156), there will frequently be one or more pupils who through inattention will not catch the question at all, or will catch it incorrectly. Such pupils should always be regarded as missing, and besides should be called to account for their inattention; for children should be taught the art of listening with attention as well as those of speaking, writing, &c. The teacher will do well therefore to observe this rule; never, except for the purpose of simplifying his language, or for some other obvious and sufficient reason, to repeat a question a second time on the same occasion.

**175.** It requires some judgment to regulate the rate of questioning; for a teacher may err by excess either way. On the one hand, in the endeavour to infuse life into his teaching, he may put his questions too quickly, or which comes to the same thing, he hurries each individual question from one pupil to another, giving no one sufficient time to think. So the pupils either remain silent altogether, though they may be able to answer with a little time for reflection; or what is worse, they guess and answer at random.

The other extreme is equally injurious in its own way. If the questions follow one another too slowly the time is wasted, all animation vanishes, and the children become dull and listless, and lose all interest in the lesson. Excessive slowness may arise from want of preparation on the part of the teacher; or it may be,

and often is, the result of an anxious desire to allow the pupils sufficient time for thinking : but the teacher carries this too far; he gives them time enough not only to think, but almost to fall asleep ; and the lesson becomes insufferably heavy and tedious.

The rate of questioning depends very much on the subject. In all mechanical details or matters of mere memory, such as spelling, arithmetical tables, certain parts of local geography, &c., the teacher may question as quickly as he pleases. But in everything requiring thought, he will have to proceed with deliberation, striking the golden mean between excessive quickness and excessive slowness.

**176.** In connexion with this part of the subject it is well to notice **individual teaching**, which is teaching the children one by one. In former times—before the general spread of the National System—the teaching in all the private schools was individual. There were no classes and no class teaching, and every child got his own tasks, read his own lesson, wrote his own copy, worked his own sums from his “Gough” or “Voster,” and got his share of instruction from the teacher, without any connexion with his school-fellows.

This of course was in most cases an enormous waste of the teacher’s time and labour. Still it is well to remember that we cannot wholly dispense with individual teaching, and it would be very unwise to attempt to do so. Though we generally teach by classes, still the teacher must often deal with individuals—he shows a child how to sit or hold the pen, points out some bad arrangement in an exercise or the right way of working out a sum, gives some explanation or a word of sympathy and encouragement when the child is striving to conquer a difficulty—which is all individual teaching. When the children work for themselves at arithmetic, reading, copy writing, transcribing, &c., this of course largely partakes of individual instruction. And it may be said in general that so long as it does not interfere with the general interests of the school, the more the

teacher's mind comes into direct contact with the minds of individual pupils the better.

162. Define simultaneous teaching.
163. What four qualities must a man combine in order to be a good schoolmaster? How far may one or more of them be possessed without the others?
164. What is the standard of good class teaching. In what two respects may a class-lesson fail of effectiveness?
165. What is simultaneous answering? How is it carried on? Give your estimate of its real value as an instrument of teaching. State fully why it is ineffective. How could you test the ineffectiveness of simultaneous answering?
166. In what cases may simultaneous answering be allowed? If used in an infants' school, how should it be supplemented? How far is it useful in ordinary schools?
167. Describe the two ways of putting a question to a class. If the teaching is good, how far will each question interest the children?
168. What particular training as to answering do the children require? How do bad teachers err in respect to a show of hands? What proportion of hands should be out for each question? What kind of questions do not call for hands out? Use of this kind of questions?
169. When an individual child is questioned, who should answer? Describe some injurious practices here.
170. Bad teachers are liable to confine their questions to a few children: what children? Describe this bad mode of teaching, and show its evil results. How should the teacher distribute his questions?
171. How may you detect listless or lazy children in a class? How deal with them? What should the teacher aim at?
172. How do you proceed when several miss, and one at last answers? What is the use of this re-questioning? Precaution here?
173. In what *order* should the children be questioned? Why?
174. What rule should be followed as to repeating a question? Why?
175. What is the effect of questioning too quickly? Too slowly? In what cases must it be deliberate? Quick! What does the rate depend on?
176. What is individual teaching? When and where was it practised? Its disadvantages? How far must we use individual instruction? Show how we use it. What parts of the school work partake of individual teaching? Use of individual teaching?

#### 4. MANNER OF ANSWERING.

**177.** The manner in which the pupils answer demands the teacher's most earnest attention. They should be habituated to give full answers. There are various ways in which an answer may fail in fulness, and various circumstances that may lead to such defects. The answer should generally include and begin with the subject—in other words, **it should form a complete sentence.** Thus: "What is a continent?" answer, "A continent is a large tract of land," &c. "The chief towns of Meath?" answer,

"Meath, chief towns, Trim, Navan, Kells." "Why does a river grow larger as it approaches the mouth?" Do not take the answer "Because other rivers join it as it flows along," but "A river grows larger as it approaches the sea, because other rivers join it as it flows along." "At what time of the year does the sun rise highest in the heavens at midday?" Answer, (not "On the 21st June," but) "On the 21st June the sun rises highest in the heavens at midday." "Name the relative pronouns." Answer (not "Who, which, and that," but) "The relative pronouns are who, which, and that." "What do you call the line on which the earth turns round?" Answer (not "The axis," but) "The line on which the earth turns round is called the axis:" or if a child does answer "The axis," then ask him next, "What is the axis?" which will bring out the full answer—"The axis is the line," &c.

**178.** One of the most usual causes of imperfect answering is the difficulty of getting the children to speak so as to be heard and understood. In rural schools this is especially observable; there the children are often found so excessively bashful, that it is almost impossible to induce them to speak or even to look up; when questioned, they hang their heads, look ashamed, and mutter in answer a few unintelligible words. All this is caused by the teacher not taking pains to train the children to speak up clearly. Great pains are taken to teach the art of reading; but there is another art equally necessary—**the art of speaking**—which is too often left entirely to chance.

**179.** The part of an answer that is most commonly imperfect is the end. It will often be observed that a boy begins very well and goes half way through, but towards the end breaks down or gradually drops his voice and sinks his utterance into a mere mutter, or perhaps omits altogether just the last two or three words—in all these cases rendering his answer, or part of it, unintelligible. Sometimes imperfect answering is directly encouraged by the manner of the teacher.

An unskilful teacher is satisfied if the pupil shows by the way he begins that he knows how to answer, and he stops him with some such expression as, "Oh that will do—you know it." This should never be done : each child **should be encouraged to go on till his answer is complete**, whether the answer be right or wrong.

**180.** The faults now noticed are very common, but they are not difficult to avoid, if the teacher only take moderate pains to train the children. Every boy should be obliged to answer so loudly that the teacher and every pupil in the class may hear him ; he should not hold his hand or a book before his mouth, and he should look into the teacher's face ; his answer should be fully finished, *and should be as loud and distinct at the end as at the beginning*. Whatever a child has to say, whether it be right or wrong, he should express firmly and deliberately, with a clear voice and distinct utterance. When he fails in any of these respects, he should be obliged to repeat the answer over again, avoiding the faults of the first attempt.

**181.** Except in case of very young children it is generally **not a good plan to assist pupils in their answers.** A child ought to be allowed to struggle through as well as he can, however imperfect his attempt; and if necessary he should be obliged to repeat the answer in a more correct form, after some other boy or the teacher has pointed out the defects. To give an independent answer without help is often a sufficiently difficult task on a child ; but this very difficulty renders it a most valuable intellectual exercise. It trains him to a habit of self-reliance, teaches him to arrange his thoughts in logical order, and to express them in full and correct language.

**182.** Some teachers, by way of assisting children, have a habit of suggesting an answer by repeating the beginning of it, allowing the child to catch up and finish it. Teacher, "Repeat avoirdupois weight." Child hesitates, or perhaps begins to repeat some other

table by mistake, and the teacher helps him with "Sixteen drachms——," which at once gives the clue. Teacher, "What city lies near the mouth of the Mississippi?" No answer. Teacher, "New Or——;" child instantly, "New Orleans!" This habit assumes other forms; some teachers constantly answer, or half answer, all their own questions, or tell everything to the pupil the moment they perceive the slightest hesitation; while others make all corrections themselves, instead of leading the children to do so.

**183.** There is nothing in connection with teaching that should be more carefully guarded against than **guessing, thoughtless, or random answers.** They are most frequently heard in those subjects requiring much thought, such as grammar. A teacher, for example, asks, "What part of speech is whiteness?" Boy instantly answers, "An adjective, sir!" Next boy, with as little hesitation, "A verb, sir!" and so on till the last lucky fellow happens to guess rightly, "A noun, sir!" and receives all the credit.

Guessing may sometimes be caused by questioning the children too quickly, and obliging them to answer before they have sufficient time to think. The evil results of excessive quickness in questioning have already been explained, and the remedy is sufficiently obvious; let the questions be given deliberately, if the subject is of such a nature as to require deliberation; and let the pupils be obliged to pause and think before answering. They should also, whenever the case admits of it, be frequently required **to give the reasons of their answers;** the teacher, when he has reason to think they may be answering without sufficient deliberation, accompanying every such answer with, "How do you know?" or some such form of interrogation. These simple precautions, if carried out carefully and judiciously, will be sufficient to check this mischievous habit.

**184. Never allow the clever pupils to laugh at the dull,** or ridicule their blunders in

answering. There is no more common cause of shyness and diffidence than this, and where the teacher allows it, many children get cowed by fear, and remain silent altogether rather than run the risk of being made the butts of ridicule. A child's answer may not be to the point; but as long as he is evidently doing his best he should be heard with gentle forbearance and should be encouraged. This most odious practice—allowing the quick children to laugh at the blunders of the slow—is productive of the very worst results; and it is even more injurious to the former than to the latter, for it begets in them an insufferable conceit and self-sufficiency.

**185.** An irascible or impatient temper in the teacher not unfrequently causes the children to break down in their answers. There are some teachers who cannot hear a wrong answer without coming down with merciless severity on the unfortunate culprit, or worse still, exposing his ignorance with bitter derision. The pupils of such a teacher never express themselves openly or freely; they are always apprehensive of danger—they feel as if walking among man-traps and spring guns—and they become consequently timid and distrustful. This unamiable and pernicious habit is productive of no good whatever, but on the contrary exercises a most injurious influence. If a boy answers wrong, hear him patiently; do not abuse or ridicule him, but simply either show him his error or pass the question to another. He will then always have the courage to speak freely when he thinks he is right, without being haunted by the dread of humiliation should he happen to make a blunder.

177. What particular quality should the children's answering possess? How should an answer generally begin? Give the examples.

178. State one main cause for imperfect answering? How should the children be trained to speak?

179. What part of the answer is most commonly imperfect? Show the way in which unskillful teachers sometimes encourage imperfect answering? In answering what should the child be encouraged to do?

180. How is low-voiced and imperfect answering to be remedied?

181. What rule would you follow as to assisting children in their answers? Show the utility of training children to answer unassisted.

182. Does a teacher ever prompt? Show how, and give examples. Describe several evil practices in connection with this.

183. In what subjects are guessing answers most common? Examples? How may guessing be caused? Describe fully how guessing is to be remedied. What is the harm of guessing answers?

184. How would you deal with the tendency of the quick children to laugh at the dull? What harm does it do?

185. How does an irascible temper in the teacher affect the answering? Describe some evil practices here, and their effects on the children. How is a child to be dealt with who answers wrong? Result of this?

### 5. PROMPTING AND COPYING.

**186.** One of the most injurious and deceptive practices connected with school teaching, is that of **prompting** in all its varieties. It is only a practised teacher that can understand how dexterously children learn to prompt; how slyly they manage to utter the first words of an answer without moving the head, and almost without stirring the lips; how quickly and almost instinctively the questioned pupils take up and use the hint, so as to deceive not only the visitor, but often even the teacher himself. Prompting acts in precisely the same way as simultaneous answering, for it accustoms the pupils to answer not from their own reflection, but by the help of others. And it is just as effectual in destroying the children's self-reliance, deceiving the teacher, and counteracting the effectiveness of his instruction.

**187.** There is another variety of prompting, chiefly practised during arithmetical exercises, namely, **copying off each other's slates**; and to this the same observations apply in full force. When the children are well trained in this kind of deception, it is quite possible that almost everyone in a class may show an exercise worked out correctly, although not more than three or four of the whole number are really able to go through it. And a visitor may look on the whole time, pleased with the general proficiency, without in the least suspecting anything wrong. Copying is bad in any subject; but **in arithmetic it is absolutely**

**fatal**, and must be prevented at all hazards. It is well for the teacher to know that the only effectual way to prevent it is to make such arrangements **as will render it impossible**. This may be effected in many ways—by placing the children sufficiently far asunder—by giving adjoining pupils different exercises, &c. If this be done in the beginning of the child's school course, he will gradually become self-reliant and get into the habit of depending on his own exertions.

**188.** At the same time the children should be taught to avoid all these practices because they are mean and dishonourable, and the teacher should watch diligently for every infringement of the rule, and never fail to notice it when detected. If these suggestions be followed, prompting and copying, with all their vicious consequences, will soon disappear from the school.

- 186. Show how prompting is carried on. Show its evil effects.
- 187. Show how copying is carried on in arithmetic. The injury it does. How may this be absolutely prevented?
- 188. What other measures against prompting and copying?

## 6. CLASSIFICATION.

**189.** The teacher must be very careful in regulating the number of pupils in each draft throughout the school. If the drafts be too large, besides other disadvantages, the pupils in each will commonly be too unequal in proficiency to be taught together with profit to all. If they be too small the case is still worse, for in order to keep them constantly at work, they will require too large a staff of monitors.

As a general rule, there should not be more than ten or twelve pupils in a draft. But within this limit the teacher should endeavour to have each draft as large as the inequality in the proficiency of the children will allow. Still there will be exceptions in spite of every precaution. The highest draft is often small from the difficulty of working up pupils so as to be fit for it,

and of retaining in the school those that are fit. Among the first class children too some of the drafts must often be very small, from the difficulty of finding a sufficient number of children so nearly on a level as to be able to spell and read the same lesson. But while submitting to such necessary exceptions as these, the teacher should always discountenance too minute a subdivision of drafts.

**190.** In classing new pupils, it will generally be sufficient to examine them in reading and arithmetic, giving chief prominence to the latter. Pupils entering a national school for the first time are very often found to know nothing of grammar, geography, dictation, &c. They should not be kept back for ignorance of these, but should be classified according to their proficiency in the two leading branches. Meantime they should be worked up, and obliged to work hard themselves, on the other subjects, till they come to the level of the class.

When a pupil returns to school after a long absence, say four or five months, it is a very usual practice to place him as a matter of course in the same class as before. This is one fertile source of unequal classification; if the pupil have been idle all this time, and if the school be progressing, it is impossible that he can be fit for his own class. Such children should be examined the same as new pupils, and placed in the classes for which they are fit, quite irrespective of their former position.

**191.** Under the operation of the Results System, the promotions may be said to some extent to regulate themselves. For the Rule, as laid down in the Programme, is, that a child of any class from the first to the fifth second grade, inclusive, who passes in the three branches, reading, writing, and arithmetic, cannot again earn a fee for the teacher in any subject in that class. But if he fail in any one or more of the three, he is eligible to earn fees in the same class next year, or in a higher class. If he be presented in the same

class, he will bring little to the teacher, for he cannot earn a second fee in the same subject as long as he continues in the same class. On the other hand, if notwithstanding his failure he be promoted, he will be paid for in his new class in every subject in which he passes ; but the chances are that the teacher will not be able to work him up for the more difficult examinations of the higher class.

After each Results Examination there are sure to be cases of this kind ; and the teacher will have to exercise some discretion in determining whether to promote the pupil or not. There may be special features in a case (such as the failure in one subject being obviously accidental, that the pupil under consideration will attend very regularly for the coming year, &c.) which would warrant promotion ; but it may be laid down as a general rule, that the safe course is to keep the child back.

**192.** There are very many children, who either through natural slowness or through irregular attendance are unable to advance a class per year. When the teacher therefore notices a child obviously failing he will do well to let him stand still for one year. This will probably enable him to gather strength enough to bring him through the several classes year by year afterwards. But to put a child into a class for which he is quite unfit, is to expose him to a whole year's worry and misery ; and while it tends only to stupefy the child, it will bring no gain to the teacher.

**193.** There are other considerations. Suppose a child puts in 100 or more days' attendance ; and on some flimsy excuse is absent on the day of examination. Or suppose he attends 97 days, and through utter carelessness on his own part or on the part of the parents, fails to put in the rest. Here the teacher receives undoubted provocation ; and might perhaps be inclined to punish by not promoting the pupil. But he must resolutely keep himself above all such low motives of action ; if he yield to them it will be a standing source of irrita-

tion and will tell against himself in the end. If the pupil is fit for the next higher class, promote him by all means, quite irrespective of any other consideration.

**194.** Again, though those who "pass" are generally better than those who "fail," it is not always so. A and B are two third class pupils. A succeeds in reading, arithmetic, spelling, grammar, geography, but fails in writing: this is a failure. B succeeds in reading, writing, and arithmetic, but fails in all the rest: this is a "pass." Here A, who "fails," is evidently better than B, who "passes."

189. What is the disadvantage of drafts too large? Too small? How many generally should be in a draft? Among what pupils are the drafts generally small? Why?

190. When classifying new pupils, in what subjects would you test them? Which is the most important subject? What should be afterwards done in regard to other subjects in which they are weak? When a child returns to school after a long absence, how should he be classified?

191. What is the effect of the Results System on the classification? What are the pass subjects? State the Programme rule of passes. What is the safe rule as to children who do not pass?

192. If a child appears not able to advance one class per year, what is best to be done? Probable result of this? Evil of promoting a child who is not fit?

193. If a child with full attendance is absent on day of examination what should be done as to promotion?

194. Show that a child who fails may be better than another who passes.

## 7. NOTES OF LESSONS.

**195.** In the following extract, condensed into a small compass, are contained some general instructions on Notes of Lessons; and I give it in preference to original matter, as it expresses much better than any words of my own what I wish to say on this part of the subject. No matter how the form of lesson notes may change, this extract will always hold good, and it is as instructive now as when it was written thirty years ago.

"A lesson [which is prepared in the form of notes]

naturally divides itself into certain well-defined sections or paragraphs, each section or paragraph being a stage in its elucidation; and each section again resolves itself into the parts, the facts, of which it is composed. The lesson must be conned over, skeletonised, and well digested. Every step in its development must be clearly laid down before the next is touched upon, and the whole lesson must be a consecutive chain, like a proposition, orderly in the arrangement of its parts, and satisfactory in its conclusions. There should be a separate book, of a convenient size, for each subject; the paper should be ruled; the sections or paragraphs should be placed in a column to the left; comprehended under these in an adjoining column should be the subdivisions of each paragraph [if any]; and in a third column, the notes or facts comprehended under the subdivisions should be arranged.

"All this implies a careful analysis of the subject matter of the lesson, and also the exercise of the teacher's didactic skill in arranging the parts in the most favourable order for teaching. The notes should be clear, simple, concise, and nearly symbolic; the narrative should appear in the catchwords, but the narrative form of expression should be avoided for brevity's sake: the skeleton of the lesson must be plainly pictured forth; there must be no displacement of a part—no member wanting; the pith and marrow must be easily filled in; the arrangement must be sequential, logical, and comprehensive; and the illustrations must be aptly, but briefly represented. . . .

"A teacher who methodically prepares notes of lessons on the different subjects on which he instructs his pupils from day to day, will at the end of a few years possess such an invaluable accumulation of well-arranged and well-digested lessons, as will be useful to him all through life; but more important still, he will have so disciplined his mind, so mastered the details of his business, and systematised his labours, that his occupation will be rendered more agreeable, his teaching

more effective, and his services generally more precious."\*

**196.** Full notes of lessons are now very often written in the following form. There are three columns. In the first are written the divisions or headings: in the second the *matter*, that is to say, the substance of the lesson in a condensed form, each heading of the first column carrying its own portion of the matter. In the third the teacher indicates the manner in which he intends to conduct the lesson, and puts in his examples and illustrations.

But many will prefer to make one column of the first two, and keep only two columns altogether, which makes the thing simpler. Both modes will be found in the specimens. If the method column appear long and detailed in these specimens, let the young teacher remember that he ought to write into it, not only his illustrations and full indications of the way of treating the subject, but also a considerable portion of what he is to say, and possibly many of the very questions he intends to put to the children.

**197.** No fixed rule can be laid down for the division of a lesson into headings, for this to some extent depends on the view the teacher takes of the subject. It is a mistake to imagine that there is always one mode of division which is right and that all others are wrong. On the contrary, it happens in most cases that the subject may be divided in several different modes, each good in its way. But some division ought to be made, otherwise the lesson will be mixed up and confused.

In a small handbook like this, treating on such a variety of subjects, much space cannot be afforded for notes of lessons; but from the specimens given, any intelligent young teacher will be able to draw up notes on any ordinary subject.

**198.** It will not be necessary to prepare such lengthened and elaborate notes as these for every

\* General Report of P. J. Keenan, Esq., Head Inspector, 1856.

lesson, nor indeed for many. Experienced teachers may generally content themselves with notes of a much shorter kind—skeleton notes; namely, the headings and a brief abstract of the matter, something like the first column of specimen 3, or even shorter. But the oftener young teachers write full notes the better, and they should write them, not on single sheets, but in books which are to be kept for future use.

**199.** In many of the ordinary lessons on those subjects that the teacher is well acquainted with, no detailed written notes will be necessary at all—nothing more than a little previous preparation and reflection, with possibly a few brief outline notes. But the teacher will need this last for almost all his lessons; for in order that his lesson may have the full measure of success, he should have some definite object in view, and ought to follow a well-arranged plan, previously determined. Moreover, he should of course have all the figures and facts at his fingers' ends, so as to render it unnecessary to be consulting his text-book or his notes too often during a lesson.

**200.** If previous preparation be necessary for the teacher, it is still more so in case of a paid monitor. The teacher should insist that he come prepared each day for all the lessons he will have to teach, *i.e.*, for all those in which preparation is necessary. He should have written notes on some; but though he may hold the paper or book of notes in his hand, he should learn to teach without actually consulting it (which observation applies indeed to the teacher himself).

195. Give a brief general abstract of the manner in which notes of lessons are to be written.

196. Describe the form in which notes of lessons are now generally written. Describe the two-column form? How should the method column be detailed?

197. Why is there no fixed rule for dividing into headings?"

198. How far is it necessary to write detailed notes? What should young teachers do as to notes?

199. What amount of preparation does an experienced teacher require for the ordinary lessons?

200. What should paid monitors do in regard to notes?

## SPECIMENS OF NOTES OF LESSONS.

## No. 1.

Lesson : The Book of Kells : Third Book.

Class : Third.

Time : 30 Minutes.

Matter.	Method.
I. MANUSCRIPT VOLUME.	Write out on blackboard (before the lesson) these words: Make children pronounce them, helping when necessary:— <i>Manuscript Volumes : library : Trinity College ; ornamented ; illuminated ; interlaced ; magnifying glass ; delicate ; century.</i> Then get the lesson read.
Library of Trinity College.	Explain that all books were then written—no printing; so that books were scarce and dear.
II. CONTENTS.	What is a library? A college is a great school for teaching advanced pupils. Colleges always have libraries. Great number of books in Trinity College. Mention some other college if there is one near. Part of Holy Bible.
Four Gospels. Latin language. Irish letters. Irish scribe. }	Scribes people who wrote books. This Irish scribe used his own letters, but used the Latin language because he copied the words from some book written in Latin.
III. ORNAMENTATION.	Ornamented in ink and colours with pen and brush. Many beautiful old books kept in England, Scotland, France, and other countries: Book of Kells the most beautiful of all.
Capital Letters.	Show capitals in lesson. Capitals of Book of Kells generally very large: one fills a whole page: all of them full of ornaments.
Illuminated.	Painted with bright colours. Books often illuminated at that time and looked very lovely. Colours of this book good and lasting because they look quite fresh after—how many centuries?
Interlaced work.	Make children look at ornament at end of lesson:—that is interlacing—weaving in and out. Show them in it bands and ribbons, curved, plaited, and woven.
Magnifying glass.	Show one if possible (eye of a pair of convex spectacles). Show halfpenny: 300 folds in that size would require magnifying-glass. Scribe must have been a skilful and beautiful writer.
Men and strange-looking animals.	One of these at left hand of ornament at end of lesson.

## No. 1—(continued).

Matter.	Method.
IV. ORNAMENTS OFTEN COPIED.	Show children several of these in 3rd and 4th Books: all copied from the Book of Kells. Others like these put into other books. These all printed, and not at all so smooth and delicate as the old writing itself.
Tail piece.	A little picture at end of lesson or chapter. Show some tail pieces if possible besides those in Lesson Books.

## No. 2.

Subject: *Simple Proportion.*

Class: Fifth Class, 1st stage.

Time: 30 Minutes.

Apparatus: Blackboard.

Divisions.	Matter.	Method.
I. Ratio.	(1) Definition of ratio.  (2) Sign of.  (3) Ratio between numbers of the same kind only.  (4) Terms of a ratio.  (5) Value of ratio.	(1) Pairs of numbers placed on black-board such as 20, 5, &c., and the children asked: How many times is 20 greater than 5? What relation does 12 bear to 4? &c., and thus lead up to definition of ratio. (2) The sign of ratio (:) an abbreviation for the term itself. (3) Examples to show that no ratio exists between nos. of different kinds. (4) Antecedent and consequent explained. (5) Value of ratio always the quotient of the antecedent divided by the consequent.
II. Proportion.	(1) Sign of equality of ratios.  (2) Definition of proportion.  (3) Relations between the terms of a proportion.	(1) Two equal ratios placed on black-board and the children asked the value of each: Sign of the equality of the ratios (= or ::). (2) The expression of their equality a proportion. Definition of proportion. (3) From the equality of the two ratios show that the product of the means = product of the extremes. This shown to hold in the case of every proportion.

## No. 2—(continued).

Divisions.	Matter.	Method.
III. Rules.	(1) Finding any term of a proportion when the other three are given. (2) Stating a problem in proportion. Reason of Rule. (3) Working a problem in proportion.	(1) Several proportions wanting a term placed on the board, and the required term found (1) by equality of ratios, (2) by equality of products of extremes and means. (2) Rule for stating led up to by showing that the required term must bear the same relation to the third that the second does to the first. (3) Rule follows from equality of products of extremes and means.

## No. 3.

Subject: *Journalising in Book-keeping.*

Class: Fifth Class, 2nd stage.

Apparatus: Blackboard and Slates or Copy Books.

N.B.—The pupils are supposed to know how to post direct from the Waste Book to the Ledger.

Matter.	Method.
I. Posting direct from Waste Book.	A Waste Book (dealing only with cash and goods) written out on blackboard, and two accounts (cash and goods) opened on second blackboard (both done before lesson begins). Children open similar accounts in their books or on their slates. A few entries of Waste Book now posted into the accounts, first by children and then by teacher on blackboard.
Disadvantages of this method.	Liability to make mistakes in this way; because Book-keeper has first to decide the account, and then the side of the account to which the entry has to be made. Better therefore to keep the thinking part separate from the practical work of posting:—done by intervention of journal.

## No. 3—(continued).

Matter.	Method.
<b>II. Journalising.</b> (1) Rough notes of Dr. and Cr. entries. (2) Regular form of journalising. (3) Uses of journal.	(1) Waste Book entries selected, such as "Bought goods for Cash £100"; and children made to note down before posting, which is Dr. and which is Cr.— <i>Goods Dr.—Cash Cr.</i> They now know to which account and to which side to post. Postings are then made from these rough notes. (2) When these notes are written out in regular form we have a "Journal." Examples: and postings made from the journal entries. (3) First, facilitates the posting. Second, less liability to make mistakes. Examples to illustrate.
<b>III. Different forms of Journal.</b> (1) Journal with single money columns. (2) Do. with double columns together. (3) Do. with Dr. columns to the left side and the Cr. to the right, the entries being made between.	An example of each form of journal given on the blackboard, and posting made from each into the ledger. The relative advantages of each pointed out.  Waste Book entries given to the children to be journalised by them in each of the forms.

## No. 4.

Subject: Pens.

Class: Fifth or Sixth.

Time: 30 Minutes.

Apparatus: common nail; smooth bit of wood; bit of reed; steel pen; quill; bit of parchment.

Headings.	Matter.	Method.
		Give some information on the following words and names which will be used:—Cadmus; Solon and his Laws (600 years B.C.); Koran (7th cent.).

## No. 4—(continued.)

Hadings.	Matter.	Method.
I. FIRST PEN.	<p>A bit of iron or other metal, pointed: used on bone, sheet lead, wood, bark, palm leaves.</p> <p>No ink.</p>	<p>A.D.); Parchment (show it); invented 2nd cent. B.C.; Domesday Book (Will. I.)—Book of Leinster (1107, A.D.), now in Trinity College; <i>Augustan age of Rome</i>; Papyrus (invented 4th cent. B.C.).</p>
II. SECOND PEN.	<p>Calamus: used first with papyrus and afterwards with parchment.</p> <p>Ink used here.</p>	<p>Cadmus taught Greeks to make letters with it. Solon's Laws written with it; Koran written in same way. Greeks and Romans used it and called it <i>stylus</i>: often made of gold. Make pupil write with nail on wood, and remark slowness and imperfection.</p>
III. THIRD PEN.	<p>Goose quill. Supplied from geese all over world, but at home chiefly from vast flocks in Somersetshire, in fens of Lincolnshire, and in Ireland.</p> <p>Pens made with a sharp penknife, and sometimes by a little machine like a pliers. Sometimes quills of crow, swan, and eagle used.</p> <p>Clarifying quills.</p>	<p>Natural transition from calamus. Make pen from quill in presence of pupils: tell them that 40 years ago quill pens used in most N. schools—made by teacher every day—very troublesome. Little machine made a pen with one cut, but expensive. Many persons use quill pens still.</p> <p>Parchment books written with quill pens. Many of the great old parchment books preserved, such as Domesday Book and Book of Leinster. Parchment still used for law forms—leases, deeds, &amp;c.</p> <p>Effect of clarifying: made quill hard and elastic.</p>
IV. FOURTH PEN.	<p>Steel. Progress of improvement:—first steel pens hard and bad, and 2s. 6d. each. Gillott first improver, 1820. Good pens in 1821 for</p>	<p>Show new pen: return to ancient material. Merits as compared with quill pen: writes more finely, lasts longer, saving of trouble and time. Pen preserved by being cleaned each time after use.</p> <p>Pens all made by machines: each process by one person—such as <i>piercing</i>,</p>

## No. 4—(continued.)

Headings.	Matter.	Method,
	£7 4s. a gross: better pens now at 2d. a gross. Chief seats of manufacture: Birmingham and Sheffield. In one factory in Birmingham more than 150,000,000 are made per year.	slitting, rounding, stamping with name, &c. Cheapness of pens due to perfection of machinery.

## 8.—REMINDERS FOR MONITORS.

**201.** [In the following way, or something like it, the teacher should instruct his monitors how to teach the several subjects.

The paid monitors should read these reminders very carefully, and **follow them out in teaching.**

The instructions given here do not pretend to be complete in any sense. They are merely hints on those parts of the teaching that fall oftenest to the lot of monitors—hints useful for all young teachers to know and keep before them.

Some of these reminders are repeated here from other parts of the book, but in simpler language. This however is done intentionally, and with an obvious purpose.]

**202. Class Teaching.—Stand in the centre of the class**, so that you can see all the children. You should generally remain in this spot while teaching; turning your head to look at the child you are speaking to, but not your body.

We sometimes see a monitor go from child to child, round and round the class, standing for a moment quite close to each, to teach or question him in a low

voice. This is a very bad plan. You must speak to the children from the centre of the class ; and whatever you say to a child, or whatever a child says to you, the whole class should hear it.

(But observe, when first or second class children are reading from books, you may walk round the class in the manner described farther on.)

Do not allow any child to keep looking round the schoolroom, or to stoop his head and keep looking at his toes. During all the time you are teaching, the children must look into your face (except of course at reading or when you are at the blackboard) and attend closely to every word you say.

They must not yawn, or loll in a lazy posture, or lean against the wall or against each other, or keep their hands in their pockets. They must stand up straight, and must learn to keep their feet and hands quiet.

Picking little bits of bread now and then off lunch, and eating them during the lesson—this is a very unseemly habit and should never be permitted.

Make the children stand in the front of the circle exactly to the line, leaving no gaps; a straggling class is very bad.

If you wish to arrange the class, **do not put your hand on the children**; you must learn to command them by word only, by your eye, and by pointing if need be with your finger.

If you are teaching from a tablet (or blackboard, or map), take care that no child is left standing behind your back. Your body must not hide, or partly hide, the tablet from any child. To prevent this you must stand on one side, close to the tablet, half turned towards the class, your eye sometimes on the tablet, sometimes on the children ; and the children might be moved a little to the other side of the circle.

You should be able to see every child in the draft while you are pointing to the tablet, and every child should be able to see what you are pointing at.

When one or two children show more readiness to answer than the others, an unskilful or careless monitor will give nearly all his questions to these, taking hardly any notice of the others. This is very wrong : you must question and exercise them all equally, or nearly so.

If you notice one child dull, or lazy, or inattentive, or anxious to escape questions, have a close eye on him, and be sure to question him as often as the others, or perhaps a little oftener.

If a child answers wrong do not speak cross to him, or make game of him, or call him a dunce, or set the other children laughing at him. Put him right quietly, and then make him answer correctly.

Encourage the children to answer : **a wrong answer is far better than no answer at all**—provided the child is doing his best, and not guessing.

Do not take the children in the order of the class, beginning at the head child and going from one to one as they stand ; select them up and down, but take care not to neglect any child.

**203. First Book : Phrase Spelling.**—Hold the First Book in your hand, and take the phrases from the lesson. The phrases must be *complete phrases* ; and must be very short, like “Two men went to a wood.” Repeat the phrase **once only**, not too fast, and very distinctly ; the child you speak to repeats it after you ; then he spells it word for word.

If he pass over a word, that is a miss ; but let him go on to the end of the phrase ; then tell him the word he omitted (or let some child of the class tell him), and let him spell the phrase over again.

If he misspell a word, do not stop him ; let him go on to the end ; then let him be corrected, and make him spell the word rightly two or three times till he knows it. (But he need not re-spell the phrase.) Do not lose too much time in the correction of a word ; if the other children are not able to do it at once, do it yourself.

Give one phrase at a time to each child, and go on till all have spelled two or three phrases each.

This exercise must be carried on quickly. Do not lose time in choosing the phrases—you need not be particular—take them as they catch your eye in the book.

**204.** *First Book: Spelling single words.*—Take first the words at the head of the lesson; and when these are all spelled once or twice, pick out words from the lesson itself. Take the longer words, but choose them quickly; do not lose time pausing or searching up and down through the lesson for a word; for this exercise must be carried on with great life.

Take the children here and there through class, and give each one word at a time. Take care that all get about an equal share.

If a child miss a word let some other child spell it for him; but if there is any delay about this, spell it yourself. After he has been corrected make him spell it two or three times over.

**205.** *Reading First Book.—Do not let the children read too fast;* each word should be pronounced very distinctly.

If you find it hard to get a child to read as you wish, read a sentence for him, and let him read after you, imitating you as nearly as he can.

Let each child read two or three sentences; each is to read till you tell him to stop. All should attend to the reader, and follow him word for word. When you stop one child, the next should know where to begin.

If you find they are getting the lesson by heart, make each, after reading his part, read it all backwards. This is a very useful practice.

If a child stop up before a hard word, **do not tell him at once**—not till he tries to make it out himself, by looking at it closely, or by spelling it. If he fail, tell him the word, or let some of his class-fellows tell him. But let this be done quickly; do not allow him too long pausing over a difficulty; take great care

that no needless time be lost over any one word. Then let him read the phrase again, taking care to give the word rightly this time.

If a child miscall a word, or mispronounce it grossly wrong, stop him and correct him on the spot; but do not interrupt him in the middle of a sentence for small faults. The general rule is that children should be let go on to the end without interruption, or with as little as possible. It is a very bad plan to be constantly tripping up children for all kinds of trifling errors in reading.

When the lesson has been read two or three times over, you may cease and go on to another exercise.

**206.** *Reading (from Tablet) words chosen up and down through the lesson.*—Pick out the longer words, but **do it quickly**, not pausing or wasting time in choosing.

Do not go on this way—giving one word to one child, another word to another, and so on: give each about half a dozen words before you leave him for another.

See that each child gets his turn, and that none are neglected. When a child misses a word, follow the plan pointed out above. (Paragraph 205.)

While each child is being exercised, all the others should attend closely, and follow him with their eyes, word after word, so as to be ready to catch him up if he miss.

**207.** *Oral Spelling in Second and higher Books.*—Carried on much in the same way as the same exercise in First Book. Take first the words at the head of the lesson; and when those have been spelled once or twice, choose the long words from the body of the lesson. Give each one word at a time.

When one misses a word, let another—or yourself—correct him; and then make him that missed spell it correctly two or three times.

Do not spend too much time over a hard word; if two or three fail to spell it, do not wait longer: spell it yourself.

**208.** *Reading from Second and higher Lesson Books.*

—Call upon the children up and down: not as they stand in the class.

Let each child read several sentences, and let him go on till you stop him.

All should attend to the reader, following him word for word; and when you call on the next, he should know where to begin.

If a child stumble at a word, do not be too ready to pronounce it for him: let him try to make it out himself, and if he fails, then help him. In carrying on this exercise, follow out the directions given in paragraph 205.

Make the children **read slowly**, and pronounce each word distinctly. Read a short sentence (very slowly) for them now and then, and make them imitate you as closely as they can.

Each must read just loud enough to be heard by the whole class. If a child is reading too low, **do not go nearer** in order to hear the better; rather move farther away, telling him you cannot hear: he will then read more loudly.

**209. Addition Table.**—Make each child repeat one column of the Table: for instance the 3 col.:—3 and 1 are 4; 3 and 2 are 5; 3 and 3 are 6; and so on up to 3 and 9. They may all take different columns; or several, one after another, may take the same column, just as you see right.

Attend to the child closely while he is repeating, and make all the others attend, to watch for errors. When he goes wrong (such as 4 and 8 are 11), stop him and let some other child set him right, or if there is any delay do it yourself. Then let him finish; but make him go through the whole column again.

If the pupils be pretty quick at this, make them do the columns backwards:—3 and 9 are 12; 3 and 8 are 11; and so on, down to 3 and 1. You may also question them up and down through the Table:—ask one child 3 and 4; another, 5 and 2; a third, 4 and 6, &c. Give each a little time (but not too long) to make out the answer.

For mere beginners do not ask the high parts of the Table; keep to such questions as they can generally answer after a little thinking.

*Multiplication Table* is carried on in exactly a similar way.

*Subtraction Table*, still nearly the same. For instance, the child repeats the 4 column in this way:—4 from 5, 1 ; 4 from 6, 2 ; 4 from 7, 3 ; and so on to the end of the column—4 from 13, 9.

**210. Maps.**—Keep the pointer chiefly in the hands of the children. Do not ask A to point out one place; B to take the pointer and show another place; C, another, and so on. Keep each child at the map for a little while: once you give him the pointer let him keep it till he has pointed out a dozen places or so. But keep your eye on the class; for while you and one child are engaged at this exercise the others are very apt to be inattentive.

Do not mix up the several features of the map; for instance, do not ask the child to show first, Ceylon; next the Ganges; next the Caspian Sea; next the Atlas Mountains; next Cape Horn. This is not teaching at all.

On the contrary, **teach features of the same kind together.** Take, suppose (on the Map of the World), the chief countries of Asia first. Get a child to point them all out, taking them just as they stand in the Geography. Let several children do this one after another till you think they have had enough of it: then go to the chief Islands of Asia and do the same: then the chief Mountains, &c.

If the country, or island, or lake, or sea, that a child is pointing out be large, make him draw the pointer around it. So also, make him draw the pointer along a river (source to mouth), along a mountain range, along the sides of continents, oceans, &c.

When a child is pointing out, make him stand so as not to hide the map from the others. Do not let the children use the pointer roughly, so as to injure the map.

202. What instruction should a monitor get as to his position in the class? As to the manner, position, and conduct of the children? Mention some habits of children that ought to be corrected. What precaution should a monitor take when teaching from a tablet or black-board? How is a monitor to treat listless or inattentive children? How must the monitor distribute his questions? Mention a bad fault in connection with this. How should a monitor act towards a child hesitating or answering wrong? Give an abstract of the instructions a monitor should receive as to teaching.

- 203 Phrase-spelling of First Book.
  - 204 Single-word spelling of First Book.
  - 205 Reading of First Book.
  - 206 Reading words chosen promiscuously.
  - 207 Oral spelling in First and higher books.
  - 208 Reading of Second and higher books.
  - 209 Addition table, multiplication and subtraction tables.
  - 210 Map geography.
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## CHAPTER II.

### THE LESSON BOOKS.

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#### FIRST LESSON BOOK:

##### 1. THREE METHODS OF TEACHING TO READ.

**211.** Teaching a child to read means teaching him to recognise at sight the various words in his book and to give their sounds (or pronounce them) without hesitation. The child has already learned *to recognise their sounds by ear*; and he has done this by imperceptible degrees up from infancy. He has now in a much shorter time to learn *to recognise by the eye their written forms or pictures*.

**212.** For this purpose **three methods** are in use:—the **Look and Say** Method, the **Phonic** Method, and the **Alphabetic** Method.

**213.** Before describing these I must remind the

reader of what all educated persons know—though children who are beginning their education do not know it—that all the spoken words of the language are formed by the combination of a small number of elementary sounds, which in writing are represented by 26 different marks or letters. These letters generally (with numerous exceptions) represent the same sounds wherever they occur, so that a person knowing the letters and the sounds they represent is able to pronounce a written word by looking at the letters of which it is composed, though he may have never seen it before.

**214.** In the Chinese language there is a different written sign for each word; so that in a Chinese primer containing 300 different words, a child would have to learn 300 different signs to master the primer. But a child has not to learn 300 different signs in order to master an English primer of 300 different words. He has in reality only to learn the powers of the 26 letters, which will enable him to pronounce not only the 300 words of his primer, but most other English words—making allowance of course for the numerous irregularities which must be learned in much the same manner as Chinese word-signs.

**215. The Look and Say Method.** Here the child is taught to recognise and pronounce each word as a whole, without attending to the letters of which it is composed: the printed words are taught in fact as if they were all different, like Chinese word-signs—which they are not. When at length he has, by constant practice and cross-examination, mastered a great many words and attained some facility in reading the primer lessons, his attention begins to be directed to the letters composing the various words and to the sounds they represent.

**216.** But the Look and Say Method is not a good way of teaching reading, when used for any length of time by itself, as described above. It gives the children the habit of looking at words in a loose inexact way (for they do not need to look at the letters)

and it begets **indecision and guessing**. For if the child does not recognise the word, he goes wrong, and there is no cure except to tell him; he has nothing to fall back on that will enable him to help himself. And no matter how much he learns to read in this way, he will never be able to make out a word he has not seen before, except indeed so far as he may have insensibly formed a phonic system for himself without any help from the teaching.

**217.** There is no reason why the teaching of the letters should be deferred so long; the child has to learn them at one time or another, and he had far better learn them at first setting out. In other words, it is best to teach the child to form words from letters from the very beginning, that is, to teach him spelling. For observe, spelling is a thing that must be taught for its own sake, and the sooner it is begun the better. And then a child who has been taught to spell, if he stumble at a word, may make some attempt to pronounce it himself by looking at or repeating the names of the letters; and to train him to do this is true teaching.

**218. The Phonic Method.** There are two chief ways of teaching children to read by building up words from letters—the phonic and the alphabetic.

In order that a child may learn to form words from letters, he must learn **three things**—first the names of the letters, secondly their shapes, and thirdly their powers or sounds in words. When he sees the word *dog*, he must learn that the first letter is *d*, the second *o*, and the third *g*; and he must learn this other, and far harder, and far more important thing, that when the three are put together they make the word or sound *dog*.

**219.** Our common names for the letters are quite different from their sounds in words. Repeat the letters of the word *dog*; the sound thus produced is *dee-o-jee*, a word of three syllables, quite unlike the sound of the word *dog*.

The advocates of the phonic system say therefore that repeating *dee-o-jee* gives no help to the child in making out the word *dog*; and so with all the other words in the primer.

**220.** To avoid this difficulty, it was proposed to change the names of the letters, and to give them names as nearly as possible the same as the sounds they have in words; so that when you repeated the letters of a word, this repetition approached very nearly to the sound of the word itself, and in some cases was almost identical with it. This is the phonic method, which has been adopted in some Continental countries. Our grand difficulty is the **irregularity of the sounds of our letters.** First, there is the frequent recurrence of silent letters. Second, the greater number of our letters have different sounds in different circumstances; if the names of these letters are to be the same as their sounds, then each of them must have two or more names, and how is a child to know when to use one in preference to another?

**221.** These difficulties are not felt so much in French, German, or Italian, which have far fewer irregularities than English. Anyhow the phonic method has not gained much favour among English-speaking people, nor is it likely that it will; so we shall not discuss it further here.

**222.** If our alphabet were perfect—if there were a letter for every sound and a sound for every letter—there would be no exceptions and no irregularities, and it would be comparatively easy to learn to read. But as things stand the child encounters irregularities from the beginning; and this grand difficulty remains all the same, no matter which of the three methods is adopted. The irregularities must be learned as already remarked, much in the same way as Chinese word-signs—by constant practice.

**223. The alphabetic method** consists in teaching the child the names of the letters in the first instance, and then teaching him to form words from

these—that is to say, teaching him to pronounce the words by first spelling them. Formerly this method was often used exclusively in the beginning of the child's course. The child was made to spell through the whole book, lesson after lesson, after which he was turned back and made read the same book through without any spelling. Spelling was in fact considered a necessary preliminary to reading, much the same as the simple to the compound rules. But this exclusive spelling method is far too slow a process and wastes time: its true use is in combination with the look-and-say method, as shown in next section.

211. Define what it is to teach reading. What has the child already learned as to words? What has he now to learn?
212. Name the three methods in use to teach reading.
213. Of what elements are all spoken English words formed? All written words? Why is a person able to pronounce a word he never saw before?
214. What is the difference between learning reading in English and in Chinese?
215. Describe the look-and-say method.
216. Why is it not good when used exclusively?
217. Why should letters be taught from the beginning? Use of teaching spelling from the first?
218. What are the two methods of teaching to form words from letters? To form words from letters what three things must the child learn? Give an example.
219. Show the relation of the names for letters to sound of word.
220. Describe the phonic method. What are our difficulties in using it?
221. Why are there less difficulties in Continental languages than in English in adopting the phonic method?
222. If our alphabet were perfect how would this affect learning to read? How are irregularities to be learned? Define a perfect alphabet.
223. Describe the alphabetic method. Show how this method was carried to excess formerly. What are its imperfections? True use?

## 2. THE NATIONAL SCHOOL MIXED METHOD OF TEACHING TO READ.

**224.** It is strange that any teacher could think of teaching a child to read either by the alphabetic or by the look-and-say method exclusively. Surely the proper plan is to mix them from the beginning and take what is good in both, as we now do in our National Schools. We use the alphabetic method and the look-

and-say method ; and we use both abreast from the beginning.

**225.** It may be remarked that the difficulties of the alphabetic method have been greatly exaggerated—often I fear by mere theorists who never actually taught children to read. First, the names of the letters have seldom to be taught, as most children pick them up before they come to school; and when the letters must be taught they are found to come easy enough to children. Secondly, the difficulty of making out the words from naming the letters, as *dog* from *dee-o-jee*, (Par. 219) is rather apparent than real. It exists only for a little time in the beginning : after some practice, the children learn to make out (or pronounce) words from the repetition of their English names, quite as readily as from a repetition of their phonic names, if not more readily.

The English names of the letters are not indeed good names ; it would be easy to form better—nearer to the phonic names ; but such as they are they form a convenient mode of communication between teacher and children. After a time it is not the names the children attend to when they repeat them, but the sounds they represent. The children in fact gradually form a phonic system for themselves. And this alphabetic method is found more convenient on the whole than the pure phonic method ; for in using the phonic method it is very hard to isolate the sounds so as to bring the process within the intelligence of little children.

**226.** We begin by teaching the child to spell and read words of two letters. Formerly a child was obliged to learn the whole alphabet before he was put to spell the simplest words. We follow a different plan ; we break up the alphabet into parcels, and as soon as the child has learned a certain number of letters, he is taught to apply them at once to the spelling of little words. Another portion is learned and applied in the same manner, and so on, till he has mastered the whole alphabet. Moreover the words the children learn are

*real words*,—words of two letters—no unmeaning phonetic combinations like *ba, be, bi, bo, bu*—*bla, ble, bli, blo, blu*. And these real words are formed into little sentences that carry meaning—*I go, it is my ox*—so that the children's intelligence is at once called into play and their interest is excited. This is an outline of the method in its initiatory stage.

224. Describe the Irish National School method of teaching to read. What two methods does it combine?

225. Show that the difficulties of the alphabetic method have been exaggerated. Of what use are the names of the letters? In making out words by spelling, what in the end do the children attend to? Why is the phonic method less convenient than the alphabetic?

226. How do we begin teaching reading. Fully describe the initiatory stage.

### 3. FIRST SECTION OF FIRST BOOK.

**227.** The children who are beginning to learn the alphabet should, in the very first instance, be put to learn the group of letters at the top of the first lesson. The best way to teach them is by constant individual cross-examination, all the others looking on, and ready to correct a mistake, while each is exercised. It is a good plan to vary the exercise by placing the pointer in the hand of each child in turn, and requiring him to point out the letters, as the teacher names them.

**228.** If carefully taught, they will learn these letters in a couple of days; they should not proceed farther till they are perfectly familiar with them. They are then taught to spell the little words; this is commonly a difficult step, but the difficulty almost disappears after the first two or three days. Beginning (suppose) at the word *an*, the teacher spells it slowly and distinctly from the tablet, pointing to the letters as he names them; the children repeat after him, either simultaneously or individually, "*a, n, an*." The same with the word *ox*; this should be done repeatedly, till the children can all do it themselves.

**229.** Reading and spelling (*i.e.* the look-and-say

method and the alphabetic method) should go hand in hand from the beginning; as soon therefore as the children have mastered the spelling of a few words, they should be taught to read them. The teacher will be careful to make them distinctly understand, without any formal definition, what they are to do when asked to *spell* a word, and what when asked to *read*. To prevent them from confounding these and other processes, the teacher, while they are in section I., should frequently put such questions as the following, on the different words: "Spell \* this word" (pointing to *ox*); "read it;" "How many letters in *ox*?" "Which is the second letter?" "Which is the first?" "What word is this?" (pointing to *an*). "What letter is this?" (pointing to *o*). "Spell *ox*" (without pointing to it). "Point out *ox*" (the child taking the pointer), "show *an*," and so on.

**230.** It will be better, during this lesson and some of the succeeding ones, that the words be taken promiscuously as often as in their natural order. When the children can spell and read every word in the lesson, not only in the order of the book, but also when selected singly and promiscuously, and when they can answer all the questions already given on any of the words, then, and not till then, they are fit to be advanced to the second lesson.

The second, third, and fourth lessons of this section are taught in exactly the same way, but there will be much less difficulty if the children be well grounded in the first. By the time they have arrived at the end of the first section, if the preceding instructions have been attended to, they will know the shapes and names, and to some extent the powers of the letters; and they will also have a practical knowledge of what it is to spell, and what to read.

**231.** The teacher will be most careful not to ad-

\* A child, when spelling off the book or tablet, should be made to *pronounce* a word after spelling it.

vance them to the second section unless they are able to name without hesitation every word in the first, whether the words be pointed out at random or taken in the natural order. If he find when the class has arrived at the end of the first section, that they are uncertain or slow in reading or spelling the words, it will be better to keep them in it for a couple of days longer, exercising them through the different lessons on the weakest points till they are perfectly familiar with every word.

227. What are the children first put to when beginning to learn the alphabet? Best plan to teach the letters of the first lesson ("an ox," &c.)?
228. How do you make the children perfectly familiar with these first letters? Show exactly how you introduce them to spelling.
229. How prevent the children from confounding reading with spelling?
230. When are the children ready for second lesson? State exactly what the children know after mastering first section?
231. Mention exactly the tests of fitness for second section.

#### 4. SECOND AND SUCCEEDING SECTIONS.

**232.** There are **four principal ways** of exercising the children in mere word teaching, two in spelling, and two in reading, and it will be useful to note them separately:—

- 1st. Spelling the words off the tablet or book;
- 2nd. Spelling from dictation;
- 3rd. Reading in the ordinary way;
- 4th. Reading at sight the words chosen promiscuously by the teacher.

The first two are the alphabetic method: the last two the look-and-say method.

These different exercises should be used in turn, in any order that the teacher may think proper, and a due proportion of time should be devoted to each.

**233. 1st Exercise, spelling off the tablet.**—Each child, looking on the tablet, spells word after word through a whole sentence, or more if the teacher think necessary. This is a very useful exercise when used moderately.

Make the children repeat the letters with reasonable

quickness, each letter being enunciated and heard distinctly; be careful that they be not repeated too slowly, as this weakens the association between the names of the letters and the sound of the word. If a child is unable to pronounce a word after spelling it, let him try it once or twice again; and if he finally fail, let some other pupil of the class, or the teacher, tell him. But take care that too much time be not wasted over stumbles of this kind.

**234.** *2nd Exercise, spelling from dictation.*—The teacher repeats the word for the child, who repeats it after him and then spells it without looking on the tablet or book. It will be seen that this differs from the spelling exercise last spoken of: in spelling from the tablet, the child gets the letters, and has to make out the word; in spelling from dictation he gets the word, and has to make out the letters.

Sometimes the teacher exercises them in spelling single words, generally picking out the hardest; this should be carried on with great life. Sometimes again he exercises them in phrase spelling, i.e., he gives a whole phrase to each child, instead of single words. He repeats the phrase very distinctly, and the child, having repeated it in like manner after him, spells the words from the beginning as they occur, without omitting any. Be sure that he pronounces each word after spelling it, and if he omit one do not stop him till he finishes the phrase, but let it be considered as a miss, and let some other child correct him. This last restriction—that the children remember all the words—is most useful, and should be insisted on. For first class children a phrase of five or six words is quite long enough.

**235.** *3rd Exercise, ordinary reading.*—This need not be described here; but there are a few mischievous errors in connection with it which must be noticed. It is often carried to excess, that is, the greater part of the time of the tablet lessons is devoted to it, while other equally useful verbal exercises are neglected. And to

make matters worse, it is often carried on in a most objectionable way; the first boy reads the first sentence, the second boy the second, and so on, the children taking up the recitative themselves, till the whole lesson has been read through, when perhaps they begin and go over the same route again and again. And if a child hesitate at a word, he is immediately told it, and repeats it after his teacher, without using the slightest effort of his own.

The most obvious result of this practice is that the children very soon get off the lesson by rote and once this occurs they will no longer read it. They may be looking on the tablet, but they are not looking on the words; they are merely repeating, and for any improvement in reading they may as well be idle.

Children repeat lessons in this way with so much gravity, and fix their eyes on the tablet, and nod their heads at the words, with so much apparent attention, as to deceive any one except an experienced teacher or examiner. It is easy, however, to show that they are not reading, but repeating. After one of them has begun to read, let the examiner, encouraging him to go on, gradually withdraw the tablet and put it aside; he will find that its absence makes no difference whatever, the child continuing to repeat the words with the same measured pace, the same nods, and the same grave attention, till he arrives at the end.

**236.** Wherever this vicious mode of teaching prevails, the children are generally advanced from lesson to lesson, getting them all off by rote, reading them smoothly, and to all appearance progressing satisfactorily, while they are in reality acquiring scarcely any knowledge of the individual words, and are making little or no advance in the art of reading. They are in fact not learning to read at all, but only to repeat certain words by rote; a child can no more learn to read in this way, than he can by learning to repeat "The history of Cock Robin" from constantly hearing it.

A simple fact will prove the truth of these assertions.

Ask a child who has been taught in this manner to read some of the lessons already gone over. Observe how he winces and hesitates until he recognises the lesson to be an old acquaintance, when the difficulty immediately vanishes, and away he goes with the greatest facility. Examine him now in reading at sight the individual words selected at random through the lesson, *in every case hiding with the pointer the words immediately preceding the one under consideration*; with great probability he will fail in deciphering not only the most difficult, but even some of the simplest words of the lesson he has read with such apparent fluency.

**237.** There are many schools of an intermediate class, where the teaching is not quite so bad, and where the effects of the practice are not so aggravated as here pictured. But let the teacher always bear in mind that whenever this mode of teaching is carried to excess, it **retards in a greater or less degree the children's progress in learning to read.**

It is right to observe that in spite of every precaution, the children may more or less get the lessons by rote—it is impossible wholly to prevent it. But this will not produce any injurious result, if the teacher, by following out the directions given here, make sure that the little learners know all the words of their lesson separately before they go on to the next.

**238.** *4th Exercise, reading at sight words chosen promiscuously.*—This is one of the most useful of all kinds of word teaching, and ought to be constantly practised; without it indeed the First Book cannot be properly taught at all. It is the exercise that counteracts the mischievous effects of getting off the lessons by rote. The teacher points to the words one by one without following any order, but selecting them at random up and down through the lesson, and as he points to each, the child reads it. Or if the teacher pleases he may sometimes exercise the children in reading the lesson backwards. This last is a very useful exercise when

the children are reading from books, and not from tablets.

Each child should be got to read a dozen words or so before the teacher leaves him for another. If a child miss a word, let him spell it; and if he fail in making it out by spelling, let some other pupil tell him, but he should not give it up till he has tried two or three times. The teacher must remember that this exercise is not merely for the purpose of examination (though for this too it answers admirably), but to practise the children in reading the words at sight. They must not leave a lesson till they can read without hesitation every word in it, when pointed out in this manner.

**239.** These four kinds of exercises should all receive proper attention. It is not meant that they should all be used in the same lesson, for a lesson might consist of only one or two of them according to circumstances; but they should be taken up in their turn, and a sufficient amount of time should be devoted to each. Generally speaking, they ought not to be mixed, that is, once the children have begun at one kind of exercise, they should continue at it for some time without wandering to any of the other three; when the teacher thinks they have had enough of it, let them change to another.

232. Enumerate the four kinds of First Book word-teaching.

233. How do you carry on *spelling off tablet* exercises? The several precautions in carrying on this exercise. If a child fails to pronounce after spelling?

234. How carry on the *spelling from dictation* exercise? How does this exercise differ from the last? Two modes of spelling from dictation? If a child omit a word in spelling a phrase?

235. What is the great error in connection with *ordinary reading* exercise? Describe the objectionable way of carrying on this exercise. What is the result of this practice? What harm does it do? Explain how a looker-on may be deceived as to the real proficiency of the children in reading First Book. How would you expose their feebleness?

236. Describe the children's progress through the book with this mode of teaching. Show that they are really not learning to read. How would you prove this?

237. If after all precautions, children get lessons by rote, what is to be done?

238. What is the great use of *reading at sight words chosen promiscuously*? Describe exactly how it is carried on.

239. In actual teaching how are the four kinds of exercises dealt with?

## 5. SUBJECT MATTER.

**240.** From the very beginning the children should be accustomed to **pay attention to what they read.** For this purpose they should be questioned on the meaning of nearly every sentence of their lessons. For first class children it should be carried on in the following manner. One child reads as much of the lesson as relates to one subject, which in the First Book is usually only a single sentence. The teacher then puts such questions as are necessary to elicit the meaning; and as soon as he finds by their answers that they understand the general drift of the sentence and the meanings of the words, let him deal in like manner with the next, and so on to the end of the lesson. The children should in all cases be allowed to look on the sentence, either on the tablet or on their open books, while they are questioned about it.

The questions should be few and simple—one, two, or three in each sentence will generally be enough, while some sentences will not require any at all. Constant reference should be made to the tablet or books, the teacher frequently requiring the children to point out the principal words according as they occur in their answers.

**241.** Let it not be forgotten that during what is called the "Reading Lesson," the children (of First Book) should learn spelling and reading, to attend to what they read and to understand it, *and nothing else.* Therefore, no foreign irrelevant matter should be introduced, except perhaps, an occasional illustration of the text. The following is a specimen of the kind of questions that should be asked on the matter of a sentence:

"That bad man got these gold cups by theft."

How did the man get the cups? (by theft). What do you call a man that gets a thing by theft? (a thief). What is a thief? (a person that steals). What did this

man steal? (the cups). What were the cups made of? (gold). What kind of a man was this? (a bad man). How do you know that he was a bad man? (because he stole the cups).

Very few sentences however will call for so many questions as this last. For instance: "The cat bit a rat; its leg bled." What was it that bit the rat? Show the name of the cat that bit the rat. What part of the rat did the cat bite? How do you know it was his leg?

240. How would you ensure that the children attend to what they read. Describe how the first class children should be questioned on subject matter. What kind should the questions be?

241. Give a specimen sentence and write out questions on it. What questions would you ask on "Tell Jane to milk the cow"?

## 6. OTHER SUGGESTIONS.

**242.** When the children are able to acquit themselves on all the four verbal exercises already mentioned; above all, when they can read at sight without hesitation the words chosen promiscuously, and spell them from dictation; then, and not till then, they are fit to leave the lesson. It would be scarcely necessary to remark that these tests should be always applied, did we not know that in some schools the children are advanced as soon as they can read the lesson through from beginning to end.

**243.** The advancement to a new lesson should be accompanied with some little formality to give it an air of importance; and generally none but the teacher should do it. Many mischievous consequences result from want of caution in this respect. In some schools, anyone who happens to teach the draft may give a new lesson, and sometimes the children themselves take one when they think themselves sufficiently prepared. It is occasionally even worse. There are schools in which if you ask the first class children what their lesson is, they can neither name it nor point it out, and for a very good reason—they have no particular lesson at all, but

when the reading time comes round, they take up and use the first tablet that happens to fall in their way.

In all such cases they run through the book hastily and superficially without gaining any real knowledge of the lessons, and find themselves in the end almost as helpless as when they set out. If there be anything in the teaching of first class children that requires special care, it is that they **be not advanced from a lesson till they are thoroughly acquainted with it**: this is one of the great secrets of teaching the First Book.

**244.** In the First Book the difficulties are introduced very gradually, and in each lesson there are only a few words that the children have not met with in the preceding lessons. If they have been carefully taught therefore they should be able to spell and read every word in a new lesson, **except these few strange words**, and indeed a few of these also (Par. 214).

On the other hand, if they are helpless, stupid, and slow, when they first encounter a new lesson, it is an infallible sign that they have been carelessly taught—that they have been hurried from lesson to lesson before they were half prepared. The proper and necessary remedy for this state of things is to turn the class back to an earlier part of the book, and make them know each lesson thoroughly before advancing them to another.

**245.** The First Book consists of five sections, of which the first three are also printed on large tablets, to be hung on the wall in view of the whole class. For some time in the beginning the children should be taught exclusively from the tablets; but at an early stage they should also be accustomed to use books. While the tablet lessons last, the little ones might for instance read two lessons per day from tablets and one from books. They will of course have to read exclusively from books once they enter the fourth section.

**246.** In all class reading from books, where each child reads a passage aloud while the rest look on the

open books, those not reading should fix their attention so close as to follow the reader, word after word, through the whole passage. In the junior classes—first and second—it is hard to train the children to this. Here the teacher, instead of standing in the centre, might keep on the outside of the class, walking from child to child, and glancing on the books over their shoulders as he passes along: and he should insist that each should follow the words with his fore finger, as they are pronounced by the reader. This practice may be discontinued in the higher classes.

**247.** To determine whether the children are fit for advancement to the Second Book, precisely the same tests are applied as in case of removal from one lesson to another. If a child be able to read at sight and spell the words of any difficult lesson towards the end of the book, without hesitation, and if he can answer in such a manner as to show that he understands the meaning of what he reads, he is then fit for Second Book, but not before.

- 242. Test of children's fitness to leave a lesson ?
- 243. Who should give a new lesson, and why? Mention some errors of bad schools as to giving new lessons. Result of want of care in this respect?
- 244. If a child is very helpless at a new lesson, what is the inference? Why this inference?
- 245. How is the teaching distributed between wall-tablets and books?
- 246. While one child is reading from a book, what is the best plan to make the rest follow him with attention?
- 247. What are the tests as to whether children are fit for Second Book?

#### SECOND AND SUCCEEDING LESSON BOOKS.

##### 7. READING.

**248.** Reading, that is, intelligent reading, is **by far the most important of the elementary subjects.** Reading can be learned without the help of any other subject, whereas no other elementary subject can be learned without reading. If a person is able to read only, and is ignorant of all the other subjects (and there are some such, who have forgotten all

their school learning except reading) this ability to read is a blessing to him, for he can turn it to infinite use and enjoyment at every period of life.

The teacher should therefore **make every effort to teach the pupils to read intelligently** and with facility, especially those in the first and second classes. He should make sure of this at whatever cost: for on it depends in a great measure, not only the children's future advancement in intelligence, but their ability to learn successfully the other subjects of the Programme.

**249.** The mechanical difficulty of making out the words, experienced by the pupil in the First Book, follows him while he is learning the Second, but becomes much less in the succeeding books, if the Second be well taught.

Children are liable to get their lessons off by heart in the Second as well as the First Book (see Par. 237), though not to such an extent; and the teacher must take care, by using the proper precautions, to counteract its injurious effects.

The observations made on this point in connection with the First Book apply to a great extent here. The child should be obliged, as far as he can, to make out the words for himself, without help, or with as little help as possible. If he stumble at a word or miscall it, he might be made to assist himself by spelling it; and if he fail at last, then let him be told it.

A teacher or a monitor who does not know his business does the very reverse of this; the moment a child hesitates in the least, the word is pronounced for him; and he travels along with great quickness and facility, because he is always lifted over the rough ground, and never allowed to fight his own way through a difficulty. It is in this way that the child gets the lesson to some extent by rote, as in First Book; and he will in the end be able to read it through quite smoothly, while there are many of the difficult words—the very words the teacher pronounced for him—that he cannot

recognise if they be isolated, or if they occur in a passage that he has not read before.

**250.** If a person were teaching merely one child to read, the fourth exercise described in Paragraph 238 should be continued through at least the earlier portion of the Second Book :—the teacher picks out the hard words up and down through the lesson, and the child pronounces them as they are pointed at. This cannot be so conveniently done in teaching a class ; for here there is no tablet, and the teacher would have to go to each child individually. Nevertheless, if the teacher find that the children are getting the lessons off by rote, he might exercise them in this way, and not allow them to leave a lesson until they can name all the words selected in any order. Or he might vary the exercise by causing them occasionally to read the sentence backwards.

**251.** Reading is an art that is **learned by imitation**, and in this respect it resembles speaking, writing, singing, &c. The teacher is the children's model, and their progress in the art depends, first, on the excellence of the teacher's reading ; secondly, on the care taken to make them imitate him ; and thirdly, on the amount of practice they get.

It is not in every teacher's power to become a finished reader ; in case of a numerous class of teachers there are many obstacles to prevent this, or at least to render its attainment extremely difficult. But there is no teacher who, if he be only moderately industrious, cannot learn to read with fluency, distinct articulation, and judgment.

To improve in the art, a teacher must **practise reading aloud** ; every teacher who wishes to read well will devote a short time every day to this useful purpose. We have set out with the maxim that the reading of the school depends on the reading of the teacher : let this be clearly understood. **No person who does not himself read well, can teach children to be good readers.**

**252.** All this implies that the children should often hear the teacher read in order to imitate his style ; and this brings us to one of the most common faults of teaching. It often happens that the pupils read paragraph after paragraph without ever hearing the teacher's voice except in the correction of mispronounced words, or in directions to stop or begin ; and it is not unusual to have a whole lesson read through in this manner without the master reading a single sentence for the pupils' imitation. It cannot be said indeed that such a reading exercise is without profit, because the children have had some practice, which improves them in facility, and some mispronounced words have perhaps been corrected ; but in style or expression there has been no improvement, for style can be acquired only by listening to a good reader, and trying to imitate him.

While the reading lesson is going on, the teacher should therefore frequently read a sentence or so for the children's imitation. This model sentence should be read very slowly, more so than in ordinary good reading, and every letter should be brought out with the greatest distinctness. One short sentence will generally be quite enough ; and the moment the teacher has finished, the child should follow at once, beginning on the same sentence, and imitating him, not only in that, but also in all the rest that he reads, as closely as possible, in articulation, rate, and general expression.

The teacher will be particularly careful to make his monitors read like himself ; and when teaching, they should also, like him, frequently read sentences for the pupils' imitation, observing the same rule as to slowness and distinctness. By these means the teacher will gradually impress his own manner of reading on the school.

**253.** The great and almost universal faults of pupils' reading are **excessive quickness and indistinctness.** In most parts of the country the people pronounce some of the consonants very imperfectly : they slip over them loosely and indistinctly, so

that it is often very difficult for a stranger to understand what they say. In Dublin and its neighbourhood for instance as well as in several other parts of Ireland, *t* is very imperfectly sounded; the word *matter* is pronounced something between *matter* and *masser*; and in all localities there are peculiarities of this kind. The children bring to school with them from their homes all this coarseness, clumsiness, and obscurity of pronunciation, and the teacher has often a hard task to produce even moderate correctness and distinctness.

**254.** The sound of every consonant is produced by the contact of some of the organs of articulation, viz., the lips, tongue, teeth, and roof of the mouth. Indistinctness is caused by not making this contact with sufficient firmness; for instance, in the above example of the imperfect sound of *t*, the tongue is hardly allowed to touch the roof of the mouth at all.

The correction of this fault must be effected entirely by imitation. It will be quite necessary for the teacher to pronounce the words and phrases very frequently for the pupils, and to cause them to pronounce after him, with as accurate an imitation as possible. This kind of training should continue during the whole of the child's school course, but the earlier it is commenced, the more effectual it will be. Hence the teacher must be particularly careful about the articulation of the first and second class children; if they are properly taught while in these classes, he will have little difficulty with them afterwards.

**255.** There are certain consonants which children are more liable to pronounce indistinctly than others; *s*, *t*, and *d*, for instance, when they come in the end of words, are commonly only half articulated. The *ed* and *t* of the past tense and participle of verbs are seldom fully pronounced, the word "and" is almost universally pronounced "an," and the *ng* at the end of participles is often pronounced like *n* (lovin', walkin', &c.) When the same consonant ends one word and begins the next, one of them is often suppressed.

The following examples will illustrate these observations; the letters in italics are those that are liable to indistinctness or omission. "When she reached the end of the lane." "When they were just going to bed." "On the sixth day." "All kinds of beasts and of cattle." "That beautiful material called silk." "In its perfect state." "Six casks of water." "They were first made use of." "Feathered game." "A hurried dinner." "My uncle's son." In all these cases, the teacher should insist on a distinct articulation of the separate letters, having himself pronounced them for imitation, and if necessary causing the children to make a short pause between the words, to enable them to bring out the sounds more clearly.

**256.** As for the second fault, it would appear that, like diminutive writing, rapid reading is commonly regarded by children, and by the uneducated generally, as an accomplishment. Accordingly, where this tendency is not counteracted, the children scramble over the sentence in the greatest haste, and without the least glimmering of reflection on what they read; once they begin, you find it almost impossible to stop them, as if the chief object were to reach the end as soon as possible. Pupils having this tendency will, rather than stop to think, miscall every word they do not know at first glance. Then the words in general are not half articulated, and many of the smaller ones are either wholly omitted, or slurred over so slightly as to be inaudible.

**257.** A person who is able to read may use the art for two different purposes: either in reading for himself or in reading for others. In reading for himself he may understand the passage without complying with the rules of good reading, without indeed articulating the words at all, for he takes in the language by the eye and not by the ear. Reading for others is quite a different thing; the listener can make use only of the ear, and everything therefore depends on the goodness of the reading. The reader has here a double task to fulfil; he has himself to **understand what he**

reads, and he has to **make his hearers understand it.**

**258.** The distinction between these two is very often not sufficiently attended to in teaching to read. The pupils are allowed to read as if no one listened, as if each merely read for himself: with the book placed close to the face, which is bent down to meet it, he hurries over the words in a low, mumbling voice, unintelligible to every one except to those standing beside him. He is not reading for the class; he is reading *into the book*. Instead of this he should be obliged to hold his head erect, to keep the book at a moderate distance from his face, to pitch his voice *over* the book, to articulate the words and syllables clearly, and in every other respect to comport himself as becomes a person who reads for others.

**259.** The children should not be got to read in succession, beginning at the first boy of the draft and ending at the last; they should be selected promiscuously, and each when called on should know where to begin. This arrangement tends to check inattention on the part of those listening, as each is liable to be called on without notice. A pupil should be understood to read on till he is told to stop, and each should be allowed to read several sentences or half a page, according to the time available.

**260.** Teachers often spend too much time in the correction of trifling errors of pronunciation. What would be considered grossly vulgar pronunciation should indeed be corrected; but beyond this the teacher must not be too exacting—he must not lose too much time in aiming at perfection.

But many teachers do not consider this, and their manner of teaching is such as to make it almost impossible for the children ever to attain smoothness or fluency. The pupil is tripped up at the end of every half dozen words to repronounce some word that has been pronounced well enough, but has not quite pleased the teacher's ear—he is worried with a never-ending

series of interruptions and minute corrections, and hardly ever allowed to read a whole sentence together.

**A child should be interrupted as seldom as possible while reading.** If he miscall or grossly mispronounce a word, or if he falsify the sense, correct him on the spot. But be not over-critical; do not stop him for trifling errors of pronunciation; if he bring out the sense fairly, and pronounce the words without any very gross inaccuracy, let him read on without any interruption.

**261.** The pupils ought to be made **prepare their reading lessons** at home like regular tasks—to read them at least twice over aloud, so as to be prepared to read them fluently at the lesson. If the teacher carry out this suggestion he will find it of great assistance.

**262.** In every locality certain vulgarisms prevail, to which the teacher should devote particular attention. An excellent plan is to **write out a list of them** in a large bold hand on a card, which is to be hung up in a conspicuous place in the schoolroom. They should be read out occasionally as a warning to the children; and the card might be referred to as a standard whenever one of the vulgarisms is heard.

**263.** The practice of **simultaneous or collective reading** is very useful, especially for the junior classes, if it is well carried out—provided of course that the circumstances of the school will admit of it. It is done in this way. The teacher reads a sentence slowly and very distinctly, and the moment he has finished, the children of the class read it after him simultaneously, imitating him exactly in rate and intonation. The next sentence is dealt with in like manner, and so on till there has been enough of the exercise. Of course the class must be kept in very strict discipline, and the children must all pronounce the words and syllables **exactly together.**

The same plan might often be adopted with great advantage in the repetition of poetry, the whole draft

or class repeating together word by word and line by line.

Simultaneous reading and recitation of poetry, when skilfully carried out promotes slowness, deliberation, and distinctness of utterance, tends to impress on the whole school a uniform rate and manner, and helps to banish that wretched, hurried, mumbling style already described.

**264.** Simultaneous reading and repetition of poetry may be practised in the schoolroom, one draft at a time, provided the room is not overcrowded; but of course the children must be trained to moderate their voices. But a separate classroom is by far the best place; for there is absolute silence, and the teacher's ear can catch the slightest departure from correctness on the part of individuals.

**265.** But while simultaneous reading is very useful in the way indicated above, the teacher must bear in mind that it is only to be practised occasionally. He must not depend on it for the general teaching of reading; for it fails to give individual fluency, which is to be attained only by individual practice.

**266.** The term "Reading Lesson" on the time-table is understood to include not only reading, but also the explanation of the subject matter. The proportion of the time that should be given to each on any particular occasion, depends entirely on the circumstances of the lesson. Sometimes, as for instance when it is a simple narrative, very little explanation will suffice, while on other occasions it will take considerable time and trouble to make the pupils understand it. Occasionally—indeed pretty often—the whole time should be devoted to reading; and on these occasions, the best plan is to cause the pupils to listen with closed books to the reader, who should be obliged to turn back whenever he fails to convey the sense. It may be laid down as a general rule, subject of course to exceptions in particular cases, that about two-thirds of the time should be given to reading, and one-third to explanation.

**267.** It has been already remarked that the success of the children in learning to read depends, among other things, on **quantity**; this important principle must be always borne in mind. The quality of the reading must indeed be attended to, so far as is useful; but **it is only quantity that gives facility.** A child learns to read much in the same way that he learns to play on a musical instrument. No one ever yet became a proficient on the flute or on the violin, without constant and long-continued practice; and it is just the same with reading.

Some teachers think it enough if a few of the pupils of a class read during the lesson, and seem to take for granted that the rest are learning to read by listening. It is true indeed that all the pupils—those who do not read, as well as those who do—learn something by listening to the teacher's instructions, corrections, &c.; but to suppose that a child can learn to read by merely hearing others read, is almost as great a delusion as to imagine that he can satisfy his hunger by looking at another eating his dinner.

**248.** Which is the most important of the elementary subjects? Why? Why should a teacher make sure that the children be taught intelligent reading as soon as possible?

**249.** How far does the mechanical difficulty of making out words follow the pupil in learning to read? If children get Second Book lessons by heart how do you proceed? Describe unskillful teaching of Second Book reading. How far should a child be helped when he hesitates at a word, and how far not? If continually helped, what is the result?

**250.** If one child only has to be taught how do you proceed? A class?

**251.** How far does reading resemble speaking, writing, singing, &c.? What plans would you adopt to improve your own reading?

**252.** How often should the teacher read for the children in class teaching? A common fault here? How can the teacher impress his own manner of reading on the whole school?

**253.** What are the two prevailing faults of pupils' reading? Give an instance of indistinct utterance in a particular locality?

**254.** How is indistinctness caused? How is it to be corrected? What is the teacher's function here?

**255.** What consonants are specially liable to indistinctness? Illustrate by several examples.

**256.** Describe the too-fast reading of children

**257.** For what two purposes may reading be employed? Describe what the reader does in each case.

**258.** Apply this distinction to the teaching of reading. How should a pupil be made to comport himself when reading in class? Describe a common error here.

259. In what order should the children read? Why? How much should each read?
260. How far should mispronunciation be corrected? Show the evil of hypercritical correction. If a child miscall or grossly mispronounce a word, when is he to be corrected? What general rule would you lay down as to interrupting the readers?
261. Use of making children prepare reading lesson at home? How is it to be done?
262. Best plan of banishing local vulgarisms from school?
263. How is simultaneous reading carried on? Describe the simultaneous repetition of poetry. Advantages of simultaneous reading and repetition of poetry?
264. Where may simultaneous reading be practised? Best place for it, and why?
265. To what extent is simultaneous reading to be used, and why?
266. What fraction of the whole lesson-time should generally be given to explanation? How proceed when the lesson is altogether reading?
267. What is the only way to acquire facility in reading? Is it enough that a pupil listens to others reading? Why not? Importance of quantity?

## 8. RECITATION OF POETRY.

**268.** Our Programme requires that the pupils of the different classes know, and be able to repeat neatly and correctly, a number of poetic pieces in their several lesson books. This committing to memory of poetry, with judicious management, may be made one of the most effectual means of improving both the reading and the taste of the pupils. But in order to derive from it the full measure of benefit, or indeed any benefit at all, it is necessary to attend to a few matters sufficiently simple and obvious, though very often forgotten and neglected.

In the first place, the general rule holds here, as in other subjects, that the pupils should never be made to get off by rote what they do not fully understand: the teacher therefore will be careful to explain previously all pieces that are to be committed to memory, and also to direct attention to the most beautiful passages.

In the next place, they must have the pieces so completely off by heart as to be able to repeat them without the slightest hesitation, and without any hint or assistance whatever; the repetition of poetry can give no pleasure as long as it is attended with difficulty and labour. This observation applies not merely to the piece under consideration, but to all those that the

pupils have already committed : it will be of slight advantage to a class to be able to repeat a few verses on the very day they are to be examined, if they are allowed to forget all they have previously learned.

The teacher is recommended to set apart one or two half hours periodically for the purpose of recapitulation ; on these occasions the children should repeat piece after piece, going through as many as the time will permit. This simple arrangement, if properly carried out, will be sufficient to preserve the poetry of their class-books fresh in their memories.

**269.** Lastly, as to the manner of reciting poetry. The most general fault in this respect, as in reading, is **excessive rapidity**, a fault into which all pupils are certain to fall if they are left to themselves. Nothing is more common than to hear children repeat verse in such a way that no one can understand them ; they rush on with breathless haste and without the slightest pause ; you hear a mere coarse, monotonous jumble of words, without a particle of taste or feeling, and without the least respect for punctuation, rhyme, or sense. And the teacher imagines that by accomplishing this he fulfils the requirements of the Programme ! The children should be taught to recite verse quietly and intelligently, with at least a fair amount of taste and judgment, with due attention to sense and rhyme, moderately slowly, and with perfect distinctness and correctness. And in order to attach importance to the recitation, it will be well that each child be made to step forward from his place in the class and stand apart while he is reciting.

Here, as in reading, the teacher must be **the children's model** ; he should very often repeat a verse or two, and make the pupils repeat after him, imitating him in all respects as closely as possible.

**270.** Committing poetry to memory is useful not only to children, but to all people. Every teacher will practise it who wishes to enlarge his mind, improve his reading, and refine his taste and judgment. The

power of doing so improves wonderfully by practice; even after the first half dozen pieces have been mastered, a person will find that he can remember with much greater facility than at the beginning. The teacher should choose those pieces that most strongly strike his own fancy, and he should accustom himself to the practice of repeating them as an enjoyment, doing so in every case with as much judgment and feeling as he can command. Unless he practises the repetition (which can be done in many places and times outside school hours) he will soon forget them.

268. Use of getting poetry by heart? Two precautions to be observed here? How would you keep up the children's knowledge of poetry?

269. Describe a common fault in reciting poetry. How should children be taught to recite poetry? How should they stand while reciting?

270. How should the teacher himself act as to committing poetry to memory? What pieces should he select? How keep the pieces in memory? Effect of practice?

#### 9. EXPLAINING THE LANGUAGE OF THE LESSON.

271. To question a child on what he has just read, for the purpose of making him reflect on and understand it, one would think a very simple matter; yet the method of putting it into practice has given rise to much difference of opinion. Some teachers are in favour of what is called **incidental teaching**, which means that various foreign matters are introduced not at all connected with the subject of the lesson, but usually suggested, either directly or indirectly, by the individual words. Grammar, geography, spelling, derivations, &c., all pass in review within the compass of one short sentence, the variety being limited only by the fertility of the teacher's invention.

This way of teaching was formerly very general, and it is mentioned here only for the purpose of condemning it. "A time and place for everything, and everything in its proper time and place;" was this maxim intended to apply only to the management of pens, slates, and copy-books?

**272.** In order to make matters quite clear it will be well to observe that a reading lesson comprises **three things**:—first, reading proper (which has been already treated of); secondly, making the children understand the language of the lesson; thirdly, making them attend to and remember the matters treated of in it. These three should be generally kept distinct. It is not meant that all three must always find place in the same half hour lesson; but before the children leave a lesson for another, the three must receive a due share of attention.

Considering the two last, it may be remarked that in after life—when the children have finally left school—they read altogether for the sake of the subject treated of, finding out the meaning as best they can. But to pupils of schools, to be taught **to** understand and explain what they read is of vastly greater consequence to them than any amount of information they may receive from the reading lesson, though this last is by no means to be neglected. The one gives power: the other mere information.

**273.** The proper method of questioning on the context of a lesson is sufficiently simple. Let the teacher bear in mind that he has before him the double task set forth in the last paragraph, and let him ask no question that does not tend to forward one or the other of these objects.

The explanation of the meaning of the language should come before the subject matter. In all cases while the teacher is explaining the meaning, the pupils should keep the books open and follow him sentence by sentence. A teacher who is moderately skilful will generally **draw the meaning** from the children themselves in their own words by questioning: but he will now and again have to explain the sense himself. It is during this explanation of the lesson that the meanings of single words should be taught, that is to say, **in connexion with the context**.

**274.** The meanings of words and context will be developed something in this way :—

'Tis silence in the broad noon-day,  
The very air is sick with heat:  
Long forest-leagues stretch far away,  
On whose green waves no shadows fleet.—  
“Thoughts of an Irish Emigrant.”

*What is an emigrant?* A person who emigrates—who goes to a foreign country. *Was this emigrant glad to be where he was?* (The children have read the poem, and will have no difficulty in catching up in a general way the emigrant's state of mind: so they will answer this.) Make them now look at the first and second lines of the fourth verse (“Green glow the valleys of the west. Bright bound the streams of dark Tyrone”) and ask *In what part of the world was this man?* They will see that it must have been somewhere in the east—probably India. *Did he like the sort of things he saw all round him?* No. *What would he rather have?* What he was accustomed to at home in Tyrone.

*Why is there such silence?* The sun is so hot—nothing stirring.

*What makes the air sick?* The heat. *Does a very hot day make anything else sick?* Yes, sometimes people. *Was the air really sick here?* No—air could not be sick. *Why does he say so then?* He thought it seemed so. *Why?* It was not stirring—it was still as if it were half dead with heat.

*Would you expect the air to be sick?* No. *There is one word in the line that shows this would be an unusual thing?* Yes, very.

*What are forest leagues?* Whole leagues of country covered with forest. (Here the teacher should come in with a little information.) *On whose green waves: the green waves of what?* Of the forest. *What are the green waves of the forest?* Here the children are likely to answer wrong—the wind waving the tree tops. *No—look at the first and second lines: you see there is no wind.* Probably the teacher will have to explain that the waves are the wavy, up-and-down shape of the tops of the trees as you look over the forest.

*What shadows?* Probably no answer. *When you are on a hill looking over the country on a fine breezy sunny day, and masses of cloud are sailing along the sky, what traces of the clouds do you see on the fields before you?* Shadows, cloud-shadows, travelling along. *What is the word for “travel” used here?* Fleet. *To fleet is to —?* It is more often used as an

*adjective : a swift-footed horse is said to be very —? Why did he miss the cloud shadows here?* He was accustomed to them in Tyrone. (The teacher should remark what a beautiful sight these fleeting cloud-shadows are : and the children will look at them with more interest next time they see them.)

I must remark that though this explanation occupies a good deal of space here, it will take only a very short time in actual teaching.

**275.** By this sort of questioning the children are led to catch the spirit of the poem ; they picture in their minds the real position of the home-sick emigrant, and become interested. But there is a sort of questioning you often hear which merely skims over the surface. *What is silence ? What is the adjective form ? What makes the air sick ? What are forest-leagues ? What do the forest-leagues do ? What are the shadows said to do ? What is to fleet ? Do shadows fleet in the place mentioned ?* This is all mere word teaching and there is no life or reality in it. When the children have gone over the whole poem in this way, they have little or no idea of what it is all about ; and they have never realised the position of the poor emigrant or entered in the least into his thoughts and feelings.

**276.** The prose lessons will seldom have to be questioned on so closely as the preceding verse. The teacher should **underline beforehand**—whether in a prose or in a poetical lesson—all the expressions that require explanation, and have his mind made up how best to go about it. This will prevent all hesitation or delay.

**277.** A few more observations on the meanings of words may be useful. They will come in, as has been already said, in connexion with the context.

As a general rule, do not ask the young children for abstract meanings of single words : except in the case of pupils who are far advanced, avoid as much as possible this form of question, “What is the meaning of such and such a word?” Thus in the expression, “The dog in his domestic state,” instead of asking, “What is

the meaning of *domestic*?" ask, "What is his domestic state?" or, "When is the dog in his domestic state?" And the next question will naturally be "What other state might he be in?" Instead of asking, "What is the meaning of *furnace*?" ask "What is a furnace?" In "They must listen attentively," instead of asking "What is the meaning of *attentively*?" ask "What is the meaning of *listening attentively*?" In "Her decease brought the patriarch into treaty, &c.," instead of asking "What is the meaning of *treaty*?" ask "What is it to be in *treaty* with a person?" and the two next questions will naturally be, "With whom was Abraham in *treaty*?" and "What was he in *treaty* about?"

It is quite possible that a pupil may be able to give the meaning of each single word in a sentence, and yet have only a very confused conception of the general meaning of the sentence itself, which is exemplified in paragraph 275. The plan here recommended will prevent such a result; for this way of giving the meanings of words explains not only the words themselves, but also the general sense of the passages in which they occur.

**278.** After the meaning of a word has been explained, it is an excellent plan to make the children **put it into a sentence of their own framing.** Thus:—"Put *attentively* in a sentence:" and the child answers, "I am listening attentively to you, sir." "Put *domestic* in a sentence:" answer—"Our cat is a domestic animal." This practice will permanently add the word to the vocabulary of the children, so as to make it in a manner their own property, and they will be able to make use of it ever after.

**279.** To give the meaning of a word or phrase is often a sufficiently difficult matter for children; the teacher must therefore not be too nice about the correctness of their definitions or explanations. He should take an answer, especially from the younger children,

if it make anything like a fair approach to correctness, and if it show that the pupil understands what he is trying to explain. But he should afterwards help him to explain it more clearly.

**280.** Do not multiply meanings. Many words have several significations wholly different; but the teacher should in almost every case limit the children to the single meaning the word bears in the very passage they are reading. To go beyond this will only tend to confuse them, and to draw away their attention from the proper subject-matter of the lesson. He must also steer clear of all mere grammatical inflections and distinctions.

**281. Do not ask the meanings of obvious words.** Many teachers give themselves and the pupils much unnecessary trouble in explaining words that need no explanation at all—words that the children understand just as well as the teacher himself. Moreover, a simple word—one that every person understands—is often harder to be explained than one that is difficult; and the explanation is commonly not half so clear as the word itself. Thus: "What is a cow?" "What is a jar?" "What is the meaning of *creeping*?" Questions like these are very absurd; a first class child knows what a cow is just as well as Cuvier, and that great naturalist might have been puzzled to answer the question, "What is a cow?"

271. What is incidental teaching? Mention a school maxim that condemns it.

272. What three things does a reading lesson comprise? Which is the subject-matter or the meaning of the language of greater interest to the pupils of schools?

273. What double task has the teacher before him in questioning on lesson? Which is the meaning or the subject-matter to come first? What are the proper book arrangements for explaining the meaning? When are the meanings of single words to be taught?

274. Write down a sentence, and put the proper questions to draw out the meaning.

275. What will good questioning accomplish as to the reading lesson? Give a specimen of questioning that is mere word-teaching. What is the evil of this sort of questioning?

276. How is the delay of picking out the hard phrases to be prevented?

277. Mention some forms of meaning-questioning to be avoided. Give several specimen words (in phrases), and give questions on their meanings.

Does a knowledge of the meanings of single words imply an understanding of the text? Why not?

278. Describe the plan of making the children apply the new words. What is the effect of this?

279. How far should perfect accuracy from the children be insisted on in giving meanings?

280. How many meanings of a word should be given?

281. Of what words should the meanings not be asked? Give examples.

## 10. THE SUBJECT-MATTER.

**282.** It is to be observed that in the process of explaining the meaning of the language of a lesson, the children will, to a greater or less extent, catch up the facts, which will leave the teacher so much the less to do when he comes to question in a connected manner on the mere subject-matter. Indeed this latter is often little more than a recapitulation; and it should always follow the questioning on the meaning.

**283.** The best questions are generally those that require a thorough understanding of the text in order to answer them. As a general rule, they ought to be so framed as to oblige the pupils to **answer in their own words.** The main subject must be kept constantly before their minds, their curiosity in it should be excited, and their interest sustained throughout; hence the teacher must endeavour to bring out the bold features of the lesson, and not waste his time by dwelling too minutely on illustrations, or on subordinate parts of the context. Without allowing any important link to be lost, he must give them a connected knowledge, a kind of bird's-eye view of the whole.

**284.** In the examination of the reading lesson there is a form of question which I think it necessary to warn young teachers against:—The teacher reads or repeats a portion of the book statement, and stops up suddenly with the word, “What?”—“Salt springs and streams obtain their saline properties from passing through subterranean masses of salt;” and the teacher’s question is, “Salt springs and streams obtain their saline properties from—what?” The children answer, because

they have it by heart, "From passing through subterranean masses of salt;" and there the matter ends, though they may not at all understand the passage.

**285.** The following specimens will show how the subject-matter is to be questioned on. The pupils should be generally made to answer questions such as these, with the books closed. The meaning of the phrases in *italics* will have been previously explained, as in Paragraph 274.

### I.

"After the death of Abel, Seth was born to Adam and Eve. He was a good man, like Abel, *and served the Lord*. But after many years, his children, and children's children, mixed with those of Cain, *and became so wicked*, that *God said He would destroy them*. And He gave warning of this to Noah, who was a just and good man," &c.

Who was born to Adam and Eve after Abel was killed? What kind of man was Seth? Whom was he like? Whom was he not like? How was he like Abel? Did Seth's children always remain good? How long was it till they became bad? What made them wicked? What bad company did the children of Seth fall into? What kind of people were Cain's children? How did they all turn out at last? Was there anything to be done to them for it? Who was going to destroy them? Were they all—every one—to be destroyed? Why was not Noah to be destroyed? To whom did God tell what was to happen? &c.

### 2.

"This useful animal (the reindeer), the general height of which is about four feet and a half, is to be found in most of the *northern regions of the old and new world*. It has long, slender, *branched horns*; those of the male are much the larger. In colour, it is brown above, and white beneath; but it often becomes of a greyish white as it *advances in age*. It constitutes the whole wealth of the Laplanders, and supplies to them the place of the horse, the cow, the sheep, and the goat. Alive or dead, the reindeer is equally subservient to their wants. When it ceases to live, spoons are made of its bones, glue of its horns, bowstrings and thread of its *tendons*, clothing of its skin, and its flesh becomes a *savoury food*."

Where is the reindeer found? Name some of the northern regions of the old world. Of the new. What is the usual height of the reindeer? Tell me one of our animals about the

same size. What kind of horns has it? What is the difference between the horns of the male and those of the female? Colour? Does it always remain of this colour? Do you know any other animal that grows grey as it advances in age? To what people is the reindeer useful? Where do they live? Point it out. Climate? When a Laplander is rich, what riches has he? Has he money? How do you know? Do Laplanders want horses? Why not? Cows? Sheep? Is a dead reindeer of any use? What parts of a dead reindeer are useful? What do they make of its bones? Would not iron spoons be better? What is done to the horns to make glue of them? What is our glue made of? (Some information from the teacher on both these questions.) What are its tendons? Could they not buy thread? Name some savoury food.

In these two specimens the full series of questions have been given here; but many of them would be unnecessary after the previous explanation of the meaning of the different passages.

**286.** To what has been said about teaching the class-books, I shall add one other suggestion. A teacher ought to make himself thoroughly acquainted with a lesson before he comes to teach it. Some teachers, from constant practice, know all the ordinary lessons so well, as to need little or no preparation. But when this is not the case, the teacher should read the lesson carefully beforehand, and as far as possible determine the manner in which he should put his questions: and all young teachers should write notes of their lessons.

282. How far does questioning on the meaning of a lesson affect the subject matter?
283. What are the best kinds of questions? Sketch how the subject matter should be questioned on.
284. Give an objectionable form of question.
285. Write out a series of subject-matter questions on any passage you please.
286. What special preparation should the teacher make for a lesson?

## CHAPTER III.

## WRITING.

## 1. SUPERVISION.—IMITATION OF HEADLINE.

**287.** It has been very truthfully remarked, that a school in which writing is well taught is always popular. The people generally have a keen and thorough appreciation of good penmanship; and with them a boy who can write a good hand is commonly accounted a good scholar. In this last opinion they are often right; for when the pupils of a school are found to write well, they will generally be found well taught in most of the other school branches.

**288.** Wherever writing is badly taught, the failure is universally the effect of **carelessness** and absence of effort on the part of the pupils, resulting from **want of earnestness** on the part of the teacher.

**289.** There is a circumstance that contributes largely to retard progress in writing, the influence of which is lost sight of too frequently, viz., the imperfect supply of writing materials among the children. This does not always arise from want of sale stock, but often from pure negligence. If you visit certain national schools at writing time, very probably you will find several boys not writing: one has no pen, one or two have mislaid their copy-books, another has got none at all, &c. Supposing five pupils out of every twenty-five are idle, it is clear, since the improvement of a child depends on the amount of his practice, that the average progress in writing would be *at least one-fourth more rapid*, if all were constantly supplied.

**290.** There is no mystery, no peculiar difficulty in the art of teaching writing. Every teacher can succeed in making his pupils write well, if he only attend to a few plain directions, and apply himself resolutely to the task. But he must be earnest about his work, and must communicate his earnestness to the pupils. Let him endeavour to make writing popular among them by every means in his power—by calling attention publicly to those who have achieved good copies, by attaching importance to the subject, and showing himself anxious about it on all possible occasions.

**291.** In order that a child may learn to write well, it is necessary, in the first place, that he have a good model for imitation. There are several sets of copy-books headed with engraved lines on the Board's List. I advise the teacher to select one of these, and once he has made his selection not to mix two different styles of writing in his school.

**292.** But in the second place, the presence of a good headline is a matter of no consequence whatever to a child unless he endeavour to imitate it. The children must be **trained** to attend to the shape of the head-lines, and to use their best endeavours to imitate them. The real secret of good writing is **effort and care** on the part of the pupils. The pupils should never be allowed to relax in their endeavours; every lapse into carelessness is not only time lost, but a positively retrograde movement.

There is only one way of accomplishing this kind of training—to superintend them carefully and vigilantly, while they are in the very act of writing. Let the teacher walk constantly among them, watching for every error, every appearance of carelessness, and never in any instance allowing it to pass without notice or censure. Whenever he sees an error let him mark it with pencil, and cause the pupil to bring up his book after the next line has been written, to show that he has avoided the error pencilled. At the end of the lesson the teacher should see every copy and initial it.

**293.** A few words of instruction addressed in the beginning to the whole class is always very effectual. Standing in front, the teacher, while all are looking up and listening, may give such directions as these:—“See that you place your words straight under those of the head-line;” “be sure you write the last line as carefully as the first,” and so forth.

The teacher should make continual use of the black-board, which should stand ready on the easel in front of the class. When he finds a disposition to commit any error, such as forming one or more letters wrong, let him exhibit the correct form on the board. When about to use the board he should give the order “pens down!” and then all without exception should stop and look towards him waiting for his instructions. The teacher may be assured that the black board, when properly used, is by far the most effectual means of correcting faults at the writing lesson.

**294.** Carelessness is most commonly exhibited **towards the end** of the copy; and this observation applies especially to the manner in which the pupils write their own names, with the address and date. Let the teacher direct special attention to this, constantly warn the pupils against it, and insist that the execution shall be equal throughout.

**295.** An almost universal tendency among children is **to write too small**; they generally consider small writing an accomplishment. The teacher must insist that the writing be large, round, and plain, that the letters be uniform in size—in a word, that the pupils imitate the head-lines, not only in respect to the shape of the letters, but also as to their size, their slope, and the length of the whole line.

**296.** On the subject of imitation, there is one other point I wish to draw the teacher's particular attention to. The pupil should be made to write his words, line after line, straight under those of the head-line, so that a line drawn with a pen through any one letter in all the corresponding words from top to bottom, will be

straight, and parallel to the sides. It is surprising how much this adds to the appearance of the whole copy; but the advantage does not lie in appearance only; for the pupil can hardly succeed in it without producing a good imitation of the head-line in all respects. The children, if left to themselves, will almost always write the lines shorter and shorter, one after another, leaving a triangular blank space on the right margin of the page; and so strong is this tendency that it will take the utmost watchfulness of the teacher to counteract it. It is not at all an easy matter to write all the lines of equal length, and like everything else worth striving for, will take some trouble and pains to accomplish it.

**297.** It is a matter for congratulation that the angular hand of females—the “pins and needles” style of writing—is gradually dying out, at least in our national schools. I have not thought it necessary in this chapter to enlarge on the obvious tests of good writing—that it should be graceful in its forms, capable of being executed with great quickness, and above all, that it should be perfectly clear and legible; for the copy-lines now universally used in our national schools combine all these excellences in a greater or less degree. But angular writing fails in all:—the shapes of the letters are surely not graceful; it cannot be written quickly; and as to legibility, it is difficult, perplexing, and trying to the eyes to read it. Moreover, it takes up much more space than the ordinary current hand.

These defects are so obvious, and indeed so intolerable where there is question of a large quantity of writing, that I believe no business house would permit angular writing in its books, or employ any girl who could not write a fair round hand. Now that women are happily beginning to be employed in numerous offices of various kinds, both public and private, from which they were formerly shut out, and that it is certain they will be employed more and more in the future, all girls should be taught to write a round hand.

287. How does writing affect the popularity of a school? How far is this just?
288. What in a word are the causes of bad writing in a school?
289. How does the supply of stock affect the writing? Example?
290. What is necessary in the teacher in order to teach writing well? What is necessary for the pupil to do? How can the teacher make writing popular?
291. What course should the teacher follow as to choice of copy-books?
292. What should the pupils be *trained* to do in regard to the head lines? How can you accomplish this? How should the teacher be engaged during the writing lesson? When an error is committed?
293. How would you apply the simultaneous method to writing? Give examples of simultaneous directions? What use should be made of the blackboard at the writing lesson? Examples.
294. Where is carelessness most often exhibited? Remedy?
295. What is the tendency in children to err, as to size? How should they write?
296. What should they be made to do, as to length of line, and as to length and *place* of individual words and letters? Use of this?
297. How ought girls write? Why is angular hand undesirable?

## 2. POSITION; CLEANLINESS; ETC.

**298.** The broad principles have now been stated; but there are other very important matters which must be attended to with equal care. The pupils must be taught a proper position; they must **sit upright**, neither resting the body on the desk, nor bending the face towards it. The chest must not touch the desk, and the right shoulder must be slightly farther removed from it than the left; the right elbow must be kept within three or four inches of the side. The copy-book should be parallel to the desk and placed a little to the right; and it may be kept in its place by the left hand—the left arm resting on the desk. The pen should be held with the thumb and the two fore fingers, which should be extended almost straight; the handle must not lie in the hollow between the thumb and fore finger, but must rest against the side of the latter between the two joints. The end of the handle should point nearly to the right shoulder; the hand may rest lightly on the desk, **rather flat than on the side**, and the pen should move **by bending the fingers**, and not by the motion of the whole hand.

In every one of these particulars the pupil will go wrong if left to himself. He will lie flat on the desk,

with his left ear almost touching it, and his elbows stretched out widely on both sides. His copy-book will be placed obliquely on the desk; the pen will be held by the thumb and *one* finger, his fingers will be contracted, and the handle will point widely away from the shoulder. The directions given here are really difficult to be carried out, for the pupils have an almost irresistible tendency to go wrong; it is only by great watchfulness and perseverance that the teacher can succeed in training them to a proper position.

**299.** The children should be obliged to keep their copy-books **neat and clean**, the margins, covers, &c., quite free from scribbling or blots. The copy-books may be preserved perfectly clean by covering each with brown paper. Each pupil should have a bit of blotter, or there may be one large blotter for the use of the whole class. But the best plan of all is to make each pupil buy one of the halfpenny copy covers on the Board's List, for this serves both for a cover and for a blotter.

The name of the owner, with the class to which he belongs, *but not another word*, should be written plainly on the outside of the cover. If a pupil, in writing, commit an error, he should not attempt to blot it with his finger; he should let it stand, and draw the pen through it. The pupils should be taught the use of the *caret* mark to insert an omitted letter or word.

The neatness of the copy-books, and their general state of preservation, are matters almost as important as the manner of writing, and should be serupulously attended to by the teacher; it has been remarked that wherever the books are carefully kept, the pupils invariably write well.

**300.** The first-class children should write copies on slates every day *with long pencils*, and the same pains should be taken to give them a proper position, and a proper hold of the pencil, as in case of the advanced pupils. It will be found the best and least troublesome plan to write with chalk a copy-line for their imitation on a blackboard, which is to be hung up before them on an easel. Two or three lines of different stages of advance-

ment—parallels for beginners, hooks for the next, &c.—can be written on the same board for the different parts of the first class, according to the children's proficiency. These lines should be carefully and neatly written, and to prevent loss of time they should always be prepared before school hours, if the black board can be spared.

If the first class children be in this manner carefully trained, they will be able to begin writing on paper immediately on their promotion to the second class.

There is nothing in the instructions now given, that every teacher, whose school is provided with the necessary materials, cannot carry out; let no teacher therefore persuade himself that he cannot teach writing successfully. It requires only moderate vigilance and care—vigilance on the part of the teacher, care on the part of the pupils.

298. Describe exactly the proper position and hold of the pen. Describe bad position and hold of pen.

299. How should the copy-books be kept? How keep them clean? What should be written on cover? If a child commit an error?

300. How should first-class children write? How give them copy-lines? When should writing on paper begin?

## CHAPTER IV.

### SPELLING : WRITING FROM DICTATION.

#### 1. ORAL SPELLING.

**301.** To learn to spell all the words of the language in common use is a difficult task. Its difficulty will be better appreciated when one reflects that their number is probably not less than 3,000.\* Learning to spell

\* According to Max Müller there are in the Old Testament 5,642 different words, in Milton's works 8,000, in those of Shakespeare 15,000. The same writer states that a well-educated person seldom uses more than 3,000 or 4,000 words in actual conversation. Taking this as our guide, we may with great probability estimate that the lesson books, up to and including the fifth, contain not less than 4,000 different words.

3,000 words does not however mean learning 3,000 different facts; for **words fall into classes**, and when the spelling of a few of one class is learned, that of all the rest of the same class comes more easily, or they will be spelled without any effort. Spelling is to a great extent a mechanical accomplishment, that is acquired in one way only, namely, by continual practice. Like reading, writing, and arithmetic, it requires to be practised **every day** during the whole period of a child's attendance at school.

**302.** The best text books from which to teach spelling in a primary school are **the ordinary Reading Books.** Special spelling books are quite unnecessary, and rather retard than expedite the pupils. It may be assumed that the lesson books contain the words of the language in common use, and if a pupil have mastered all the words even in the Fourth Book, so as to be able to spell them orally and write them from dictation, he may be pronounced a good speller. He has indeed much more to learn, for the Fifth and Sixth Books lie before him; but if he can do this there is very little danger that he will misspell words in writing a common letter, and this is a very valuable amount of proficiency. What the teacher should endeavour to accomplish then is this:—to make the children able, first, to spell orally; second, to write correctly from dictation, all the words as they occur in their several class-books as far as they have advanced.

**303.** The children should be exercised in spelling every day. If there be not a special time set apart for it, a little time may be given to it at one of the reading lessons; and at the home lessons the children may be at spelling during the intervals of hearing the tasks, as described in Paragraph 85. And at the reading lesson, the children may spell for six or seven minutes, either before or after they have read. Observe however that during this time *they are to be at spelling and nothing else.*

**304.** In oral spelling the children get the more difficult words singly, either taken from the columns, or selected as they catch the eye through the lesson. In this all the classes, including first, should be practised. When the teacher pronounces the word the child should pronounce it after him and then spell it.

The teacher must take special care to carry on this exercise with great quickness and life. Some teachers make a pause after each word is spelled, and spend some time searching for the next; meantime the children are standing idle waiting for what is to come next, and the exercise becomes dull and lifeless. It is not necessary that the words be selected with exceeding care, and consequently the teacher need not be very particular; at all events he should waste no time in searching for them, and the words must follow each other as rapidly as it is possible for the teacher to give them, and for the children to spell them.

The teacher will find it a good plan to keep a lesson book specially for the oral spelling exercises, in which he has **underlined beforehand** all the words that are liable to be misspelled; they will then catch his eye at once, and there will never be any hesitation or delay.

If a child misspell a word, give it to another; and when at last some child hits the mark, take care to make all those that missed it, spell it now correctly. If a word of unusual difficulty occur, let all who like try it; but if all miss, then do not waste any time in further attempts; spell it for them, or what is better, write it on the black board, and make them spell it correctly in succession after you. In all cases endeavour to have as many words as possible spelled within the time.

Phrase spelling has been already sufficiently dealt with in paragraph 234.

**301.** How many English words in common use? How many different words in the Old Testament? In Milton? In Shakespeare? How many does a well-educated person use? About how many in Lesson Books up to Fifth? Show that learning to spell 3,000 words is not learning 3,000 different facts? How is spelling to be acquired? How long must a child practise spelling?

302. Best text-books? When may a child be pronounced a good speller? What exactly is it that the teacher should endeavour to accomplish?
303. When and how often should oral spelling exercises be carried on?
304. In what classes should single-word spelling be carried on? How carried on? How would you prevent delay in selecting words from lesson? If a child spells a word after several have missed it—how proceed?

## 2. TRANSCRIBING.

**305.** The chief use of oral spelling is to aid the learner to write the language correctly. It is necessary to bear this in mind, for many persons are quite satisfied if they find children expert in oral spelling. This expertness is indeed extremely desirable; but considered in itself it ends in nothing; it is merely a means to an end—it is only so far as it helps the pupil to write correctly that it is of any use. If a person were supposed never to write, then spelling (except in so far as it helps the young children in learning to ~~read~~) would be of no use at all. A child may be a good oral speller without being a correct writer; or to put the matter more plainly, it is a thing of quite common occurrence, that children misspell in writing the very words which they can spell by word of mouth.

It is all important then that the teacher should bear in mind that while oral spelling affords assistance, nothing but daily practice with the pen will enable the learner to write the language with correct orthography.

**306.** The subject of writing from dictation (which is meant here to include copying or transcribing) therefore should be introduced simultaneously with reading, writing, and arithmetic, that is, at the beginning of the child's school education. But to convert spoken into written language is, to children who have never practised it, a difficult task, no matter how easy the passage, or how short and simple the words. The step from mere copy-writing to writing from another person's reading is too broad to be passed at once; it requires to be divided by some intermediate stepping-stone.

The most natural and obvious advance is the practice of **transcribing**. This is now practised in all national schools; but perhaps the very simplicity of it may be assigned as a reason why, in some other schools, it is not practised more generally; yet it is a most useful and improving exercise for children.

**307.** For those who are absolutely beginning, that is, for the children in the first class, the best way to commence is, to make them copy a few simple words, or even letters, in large hand from a black board. As soon as they are able to form and connect letters (which cannot be long, since they write twice every day), they should copy the words of their own lesson, either from their books, or from the tablet, which might be suspended before a whole draft. The second class children should continue the same process, transcribing day after day from their lesson books. In this exercise they should in all cases write whatever size of hand they practise at the writing lesson.

As soon as they begin to be able to copy with neatness and facility—when for instance they can fill two small pages in one half hour—they should be gradually introduced to the more advanced and difficult exercise of writing down what another person reads. They might be engaged at this on alternate days, the passages read for them being at first extremely simple.

**308.** The utility of this copying exercise depends however on one condition, namely, that the pupils exercise moderate care both as to the writing and the spelling. The amount of improvement is in proportion to the general correctness of the copy; **every error is worse than time lost**, because it perpetuates incorrect spelling, and a habit of carelessness.

From the very beginning therefore the teacher will see that a careful supervision be exercised over the children. The monitor who is placed in charge of the junior division must take care that they sit, hold the pencil, and shape the letters properly; and the senior division in like manner should write neatly and care-

fully. The teacher will also see that the pupils copy in all respects accurately ; that they make all the stops, attend to the capital letters, and form paragraphs properly.

As to the spelling, this depends entirely on their own attention ; the books lie open before them, and there is consequently little excuse for mistakes. There will however be some errors, and the proper and best method of correction is that recommended in the next section (page 179.).

**309.** Children may be employed in writing (as a spelling exercise) in one or the other of two ways :—transcribing from their books, as described here, or writing from another's dictation, as described in next section. It is necessary to bear in mind that the former, when done carefully, is just as useful as the latter, and that both should be constantly practised. Do not think transcribing too simple an exercise ; there are comparatively few persons who can transcribe quickly, accurately, and neatly ; and the pupil who is able to do so has advanced a most important step, not only in the art of writing the English language, but also in the acquisition of a habit of correct observation.

**310.** The great value and importance of copying on paper does not appear to be sufficiently recognised by some teachers. It is, when done with care, the best method of teaching children to spell correctly ; they learn how to manage capital letters and to punctuate ; it gives them a knowledge of the mechanical formation of sentences and paragraphs ; and by practising it constantly, they gradually and surely attain facility and command in writing the language. It has other advantages too which ought not to be overlooked. It is one of the best means of keeping the children employed with the least possible trouble to the teacher. Moreover, it economises time, for a child will write twice as much within a given time when he is copying from a book, as when he writes in class from dictation. Writing from dictation is necessary to prepare children for

examination, and as a means of finding out the prevailing errors; it also teaches spelling; but for this purpose careful transcription is a more effectual instrument.

**311.** Every pupil in the school, from the lowest to the highest, should practise copying. Those in the junior classes should use slates; but for the senior classes, slate writing is an extremely worthless exercise. Pupils who have been for a long time constantly accustomed to write only on slates, commit errors with the greatest indifference, and acquire a habit of silly indecision, from the perfect facility of blotting out the wrong word, and substituting the right. On paper, the case is quite different; what is written remains; and the pupils are therefore obliged to decide at once on the correct form of the word, without the previous experiment of writing and erasing it two or three times in succession. Besides, practice in writing on slates will not improve a child in writing on paper, the only kind of writing that is of any value. Once a child comes to be able to use the pen fairly therefore he should altogether discard slates in writing; in other words, all those in second and higher classes, whether they are employed in copying or writing from dictation, should invariably write on paper.

**305.** Is it enough to be expert in oral spelling? Why not? Use of oral spelling to a person who never writes? How must oral spelling be supplemented? What is the only exercise that teaches correct spelling?

**306.** When should writing from dictation begin? What is the natural stepping-stone between copy-writing and writing from another's reading?

**307.** What is the best way to begin transcribing with very young children? When can they form and connect letters, what do they write from? In what "hand" should they write? When do they begin "writing from another person's reading"?

**308.** In order that copying may be of use, what condition is necessary? What steps must be taken to secure carefulness?

**309.** In what two ways may children be employed in writing as a spelling exercise? Is copying too simple for senior children? Why not?

**310.** Enumerate the several advantages of copying on paper. Compare copying with writing from dictation as a means of teaching spelling. Chief uses of writing from dictation?

**311.** What pupils should practise copying? Show the superiority of paper to slate!

## 3. WRITING FROM ANOTHER PERSON'S READING.

**312.** The next step after copying or transcribing is "writing from dictation," properly so called. Children who have been trained in the manner described will feel little difficulty in beginning this exercise.

**313.** If the children are awkward or very slow at this exercise from want of practice so that they write only a very small quantity within the time, the lesson may be regarded as a failure, even though the spelling be moderately correct. For in order that a lesson may be profitable, two things are necessary:—first, that the pupils write a fair **quantity** within the time; and second, that they write it **with reasonable care and correctness**. If they have had previous practice at copying they will be able to fill two or three pages within the half hour.

**314.** The person who reads for the class should stand in front; he should read by clauses and not by single words; he should read each clause **once only**, but with the greatest possible distinctness, and when he reads, all should listen. The rule of reading only once should be rigidly carried out, for it trains children to the habit of listening with concentrated attention. Besides, when you read a clause a second time, though it may be useful to one or two, it distracts all the rest. When the teacher finds that all have written the clause last read, he calls for attention and reads the next. If one of the pupils of the class is got to read, he profits at least as much as his fellows; for there is no more improving exercise in reading than dictating for a class, on account of the training it gives in reading slowly and with distinct articulation.

**315.** The quality of the writing is often not sufficiently attended to; many teachers seem to think that if the spelling is correct, all is right. This is a great mistake; the teacher should insist in all cases that the writing be executed carefully and neatly—should be

large, round, and plain. The pupils should leave a margin to the left of the page, and the words should not be crowded too closely even on the right. If there be not room on the right for the whole of a word, it will be better not to divide it, but to bring it all forward to the next line, even at the expense of a little waste of space. But if it be divided, the divisions must be done properly *at the junction of two syllables*; the hyphen must be placed in the proper position, and the latter part of the word written at the beginning of the next line, *not just over the first part*, as is often done.

**316.** The correction of errors in spelling implies, first, **the detection** of them; second, **the writing of the correct words** in place of those wrongly spelled. The first is generally done by the teacher, the second always by the children themselves.

**317.** If a teacher had only one pupil, the way of proceeding would be obvious and easy. The pupil writes for say twenty minutes on certain days from the teacher's dictation. When a passage has been written, the teacher, while the pupil looks on, reads it over, and underlines the misspelled words. The pupil now takes the copy-book, and with the printed passage open before him, so that he may find out his own mistakes, he writes out, one after another, with correct spelling, all the misspelled words; he then writes them over again; and so on, till he has written them all six or eight times.

When he is pretty well advanced—say in Fifth Book—he is to keep a note-book in which all his orthographical errors are to be recorded. Each day he writes into this a list of his misspelled words (spelled correctly in the list); and once a week or once a fortnight, according to the number of errors, the teacher dictates from this book, and the pupil writes down, with correct spelling, all the words missed since the last recapitulation.

But where there is a large number of pupils, and where economy of time is a principal object, as it is

always in a school, the teacher must contrive that each may derive as much profit from the lesson **as if he alone were under instruction.**

**318.** There are several plans for the detection and correction of errors in a class, but the most effectual of all is this, if it can be carried out. Let the pupils write from dictation to the end of the lesson and give up their books. Then let the teacher, outside school hours, read all the exercises and underline all the misspelled words.

The beginning of the next dictation lesson—say fifteen minutes—is devoted to the correction of these errors. The pupils open their copy-books, and there they see all their mistakes underlined. They open their lesson books at the passage dictated, where each sees the words he has misspelled, and writes them out six or eight times, with correct spelling. This of course is done in absolute silence. Those that have finished before the others should employ the spare time in copying. The remaining time of the lesson is given to the next dictation passage, which is to be dealt with in the same way.

**319.** Here is another excellent plan. Whatever may be the length of the dictation lesson, let two-thirds or one half of the time be devoted to writing, and the remainder to correction. During the whole time that the children are writing, the teacher, with a pencil in hand, continues walking among them, glancing his eye over each copy-book. He begins at the head of the class, and goes from one to one, looking carefully through what each has written as he passes along, till he arrives at the last, and whenever he detects a misspelled word he underlines it; then he goes back to the first and begins his tour again, doing this as often as the time will permit. Having examined what each pupil has written, he puts a pencil mark after the last word, before passing on to the next; this will show him, when he next comes round, where exactly to begin his inspection.

But in doing all this, he must not interrupt the pupils

or distract their attention, except in case he has to direct the correction of some fault in the writing; and even then the interruption should be as short as possible. He must avoid all talk, all explanation, all reproof. There are some who never can keep their tongues quiet; they break out into volumes of empty talk on every trivial occasion, and waste with mere sound the time that ought to be occupied with solid work. A pupil must not cease writing while the teacher is looking over his shoulder.

When the time for writing has ended, the children stop, and if the teacher has done his part well, every misspelled word will have been detected and marked in the pupils' copy-books. They then open their reading-books at the passage dictated and correct their errors as shown in Par. 318.

A teacher or an active monitor should be able to superintend in this manner a class of at least a dozen, without allowing a single misspelled word to remain undetected. The teacher should not employ himself in reading for the class; one of the pupils—some boy who is a good, distinct reader—should be put to do this: unless the number in the class be small, the inspection and the detection of the errors will give the teacher quite enough to do.

I suggest to the teacher to have a note-book, and while he is looking over the children's exercises, let him enter into it all the *different* errors. This will take up hardly any time, and he can make a separate dictation lesson of these errors once a fortnight or so.

**320.** Each pupil who writes from dictation on paper should keep a copy-book for this special purpose—distinct from his book for copy writing—to be called a "Dictation Exercise Book;" these books should be kept in the press, and distributed and collected in the same manner as the writing copy-books. In these the pupils should write all their dictation exercises; they should be made keep them as neatly as is consistent with the nature of the lesson, and every exercise, with

all faults and imperfections, should be preserved till the whole book is finished.

Such a book as this, when written out, will consist of a succession of dictation exercises, in which all the misspelled words will appear underlined, each exercise being followed by a correctly written list—repeated several times—of all the misspelled words it contains. The great advantage of this arrangement is that all the errors are preserved, and can be made at any time the subject of a special exercise.

**321.** After certain intervals—say at the end of every six dictation lessons—the pupils should devote one entire lesson to the errors of the past six days; these will be taken either from the teacher's note-book (Par. 319) or from the pupils' dictation copy-books. If the former, the teacher simply dictates from his book. If the latter, each pupil goes back to the beginning of the six lessons, and picking out all his misspelled words, which he can easily do, as they are underlined, he writes a full list of them on the first clean page of the copy-book—writing them now with correct spelling. When he has written them all he begins again, and so on, writing out list after list during the whole time.

**322.** Other methods of correction are practised. Sometimes the pupils exchange slates or copy-books, and each examines his neighbour's writing, marking the misspelled words. Sometimes the teacher or monitor stands in front of the class after the writing is finished, and spells out every word in the whole passage, while the pupils—each looking either on his own writing or on that of his neighbour—follow him from word to word, and underline the mistakes. Sometimes the best spellers are sent to read and mark the errors, while the teacher reads and marks theirs. When all the errors have been discovered by any method, the pupils write out correctly the words they have misspelled.

There is no objection that these should be used

occasionally for the sake of variety; but they are not recommended for general adoption, as they certainly are not effectual; if they are tried at all, it should be only on rare occasions. The two methods first described are the best.

**323.** I strongly recommend the teacher to make the pupils **prepare their dictation lessons.** Let them always be told the passage for dictation for the next day, and let each look through it carefully; or what is still better, **let each copy it out** at home, and bring the copy to school. The teacher will find this a most powerful aid in teaching the pupils to write with correct spelling.

**324.** In No. 1 time-table (page 41), there is a lesson on "Dictation" every day for the senior division—five per week, not counting Saturday. On two of these days the pupils can write from another's reading; on two other days they may be employed silently copying from their own books; and the fifth may be devoted to a composition exercise.

**325. Writing pieces from memory** is a most useful exercise, quite as useful as transcribing from open books—perhaps even more so. The pieces selected will generally be poetry. Take great care to show the pupils how to form the stanzas properly, and to manage poetical lines that are too long for the width of the page. It is surprising how few can write out a piece of poetry correctly.

**326.** Another very useful exercise, and generally a very amusing one for the children, is **writing out lists.** For instance, let them write out for one exercise the name of every bird they can think of; for another, the name of every quadruped; for another, the names of flowers, or of insects, or of fishes. Then they might write lists of Christian names, or of all the names of places they know, or of all the articles in a farmyard, in a carpenter's, a grocer's, a shoemaker's, a tailor's, or a smith's shop, the names of domestic utensils, the days of the week, the months, &c., &c. These exercises

have one recommendation, that they are perfectly silent, requiring no person to read to the pupils. But in the beginning, the teacher will be surprised at the number of errors, even in the exercises of the sixth class pupils. All these are obviously not only useful but necessary, for they will come into use in everyday life when the pupil has left school.

**327.** Pupils of the highest classes, such as sixth and higher grade of fifth, should keep note-books, in which they write all the words they misspell. They should copy off the words of these note-books over and over again, till they are quite certain they cannot miss one of them.

**328.** The method of teaching the art of correct spelling may now be briefly recapitulated:—1. Use the ordinary reading books as text-books. 2. Make the children—partly by home lessons, partly by everyday practice in school—able to spell orally the words of their lessons. 3. Let all practise correct copying from their lesson books—the little children on slates, the others invariably on paper. 4. Alternate this exercise for the senior classes with writing from dictation, or with writing out poetical pieces from memory. 5. Make the most advanced of the pupils keep note-books in which they record all their misspelled words.

**329.** It is worthy of remark that the orthographical errors children commit in writing are of two kinds:—first, misspelling a word that the pupil does not know how to spell at all, such as *seperate*, *enoble*, *heinous*, &c. When you find such errors as these after a pupil, you may reasonably conclude that he would misspell them similarly if asked to spell them by word of mouth. Second, misspelling a word that he obviously knows how to spell, and would spell correctly if asked to do so orally; such as *dek* for *desk*, *cadle* for *candle*, *coy* for *cow*, &c. Errors of this kind always arise from want of facility—mere mechanical awkwardness—the consequence of not giving the pupil sufficient practice in writing.

Some persons would be disposed to judge the latter less severely than the former. But any incorrectness in writing a word, whether arising from oversight, carelessness, forgetfulness, or ignorance, should be marked as an error; and it is simply laughable to hear a person excuse wrong spelling, on the score that the pupil knew well enough how to spell the word, but missed through a mere slip of the pen.

312. Next step after transcribing?
313. That a dictation lesson be profitable, what two things are necessary? If children are slow, and write little, how is lesson to be regarded?
314. Describe fully the proper manner of reading for the class. Why should each phrase be read only once? Show that reading pupil does not lose time.
315. What are the several precautions that must be taken as to the mere writing? Enumerate prevalent errors here.
316. What two things does the correction of errors imply? By whom is each done?
317. Describe how to exercise a single pupil in dictation, and how to correct his errors: (1) early stage; (2) advanced stage.
318. Describe the best plan for detecting and correcting errors. How and when are pupils to find out right spelling and correct errors?
319. Describe another good plan for same. Who reads? How many can a teacher superintend in the second plan? Use to teacher of keeping record of errors in note-book? Caution as to interrupting pupils?
320. Describe fully the use of a "Dictation Exercise Book." What will it contain and show?
321. How and how often are the errors recapitulated?
322. Describe other modes of correction.
323. Use of making children prepare dictation exercise?
324. How would you occupy the five weekly dictation lessons?
325. Describe the exercise of writing out pieces from memory. Precautions in case of poetry!
326. Describe in detail the exercise of writing out lists. Give various lists
327. Show the use of a note-book for errors in the advanced classes.
328. Recapitulate under five heads the method of teaching spelling.
329. State the two kinds of orthographical errors, and how they are to be treated? From what does each arise?

## CHAPTER V.

### ARITHMETIC.

#### 1. FIRST TEACHING OF NUMBERS: TABLES.

**330.** Arithmetic is the fourth of those essential school branches, without a tolerable knowledge of which no person can be said to possess a good elementary

education. So far as the arithmetical education of the pupils of our national schools is concerned, the matter to them beyond all others in importance is to become **good practical calculators**; for deficiency in this, no amount of arithmetical ingenuity or theoretical knowledge will compensate. The utility of their education in this respect is tested not so much by any abstruse processes or ingenious puzzles, as by ordinary simple calculation.

A good practical arithmetician is one, first, who can perform mentally, with readiness and with little danger of error, all those short computations that are met with in everyday life; and secondly, who can execute **on paper** all sorts of elementary calculations, even when considerably extended, with rapidity, neatness, and certainty.

**331.** In this respect it must be remarked, that many teachers and many pupils labour under a strange mistake. Operations in the simple and compound rules are commonly considered fit only for the junior classes; the advanced pupils think such simple work quite beneath them, and in many schools they are engaged at it as seldom as possible. It is of course right and necessary that advanced pupils should know the advanced rules; but to keep them always, or the principal part of their time, engaged at them, is a mistake.

The simple and compound rules are **far the most important parts** of arithmetic, and the child who is well trained in them will find little difficulty in all the rest: it is merely a matter of a little study and explanation. Quickness and certainty in these are to be attained only by constant practice; and the teacher should therefore make arrangements to have the pupils of all the classes exercised every day—or very often—in simple calculations.

**332.** The first lessons in arithmetic should be given by means of objects of some kind, the most convenient being the balls of an arithmeticon (or ball frame); but if there be no ball frame any small objects will answer,

such as peas, marbles, buttons, &c. We have first to make the children understand clearly what the single digits stand for. Bring out one ball on the frame, and make the digit 1 on the blackboard: this 1 stands for the single ball. Next bring out two balls and make the digit 2: this 2 stands for the two balls. And so on for the other digits.

In the case of each digit the children should be made to understand that it stands for other things as well as balls: 4 represents four apples, four fingers, &c. The little ones should also be got to make the digits on the board, an exercise that children always take to with great zest. They should not be carried farther until by this kind of teaching they thoroughly understand what the several digits stand for, and can make them on the board and read them off without hesitation.

**333.** After this they can be gradually introduced to the addition of numbers, the balls being continually referred to. If four balls and two balls are put together how many will that be? Let a child count out four balls, and then two balls: and now let him count all—six balls. Then ask again: four balls and two balls?—when they will be able to answer *six balls* without counting. Pass from balls to apples and other objects, and from that to the abstract numbers:—four apples and two apples? Four boys and two boys? Four and two? Plenty of this sort of exercise in the beginning will make the children thoroughly understand the addition of small numbers. Moreover they will gradually come to understand numbers in the abstract and to combine them. This is proceeding from the concrete to the abstract, from the known to the unknown, which is the foundation of all sound teaching. Observe: the teaching here set forth is all through inductive (page 88).

**334.** The teacher must remember that there are **four elementary tables**, all of which require careful teaching and constant practice:—Addition Table, Subtraction Table, Multiplication Table, Di-

vision Table. I think it necessary to dwell on this point, because it too often happens that the Multiplication Table is the only one of the four that is really taught.

The Addition Table consists of eight columns; and each column of nine additions. The children having been taught the process of adding numbers in the manner pointed out in the last paragraph, the next thing to be done is to show them how to read the columns of this table in their table-books. Let each child read out one column (the teacher shows him how) from beginning to end:—2 and 1 are three; 2 and 2 are four; 2 and 3 are 5, and so on.

Having done this several times, they should be examined in doing the same with closed books. When they begin to be expert, they should be exercised in repeating the columns backwards: 3 and 9 are 12; 3 and 8 are 11, &c. But all through this the ball frame should be at hand, and should be referred to whenever the children show signs of getting puzzled.

When they are fairly able to repeat the columns up and down, they are next to be exercised in adding numbers less than 9, selected promiscuously. Here each individual addition must be proposed by the teacher or monitor; and the children must be kept at this exercise day after day till they can add together mentally, without the least hesitation, any two numbers less than nine, the ball frame being referred to when necessary. There is here a strong temptation to use the fingers in counting; but although the master must not be too rigid on this point with young children, yet they must be gradually weaned from it. Lastly, for more advanced pupils, this table is further extended by exercising the little pupils in adding numbers less than 9 to numbers up to 100:—25 and 7; 33 and 8; 22 and 5, and so on.

**335.** It is a great mistake to teach children the Multiplication Table without first teaching the Addition Table. In some schools you will find the children able

at once to tell you how much is 5 times 7: but they cannot tell you how much is 5 and 7 without counting on the fingers. Bear this in mind:—the pupil who is not expert at the addition table is every moment liable to commit an error in plain addition, the most necessary and universal of all arithmetical operations.

**336.** The Subtraction Table consists of eight columns, and in each column there are nine subtractions. This is the Addition Table reversed, the several *sums* in the latter being made the *minuends* in the former. The children must be taught this table in precisely the same way as the Addition Table, and they will require the same continual reference to the ball-frame, and the same daily practice.

The Multiplication Table is next taught—still in the same manner. The children are first taught easy multiplication by the ball-frame, which can be done by any teacher who has read Paragraphs 332 and 333. After this they are made to read the several columns, so that they may be able to prepare them as a home lesson. Then they are exercised in repeating the columns first upwards, then downwards; and in the end they are exercised promiscuously.

**337.** The last taught is the Division Table. I think it is better to teach this table by promiscuous exercises all through than by columns: if the children have learned the other three tables well, they will not experience any great difficulty in this. But there must be in the beginning continual exercises on the ball-frame. At first and for a considerable time the exercises should be such as to give no remainder. When they understand this, and have attained some expertness, they may get questions involving remainders. The teacher questions the pupils up and down through the class; each may get several questions at a time; and the whole exercise must be conducted with great animation.

**338.** The following is a very excellent plan for exercising the children in Tables—a plan that will enable

them to get over a large amount of work within a given time; and what is equally important, will save the teacher much talking. Let a number of small cards or tablets be got—three or more for each of the four Tables—each about the size of a slate. On each is pasted a leaf of clean paper, on which the teacher writes in clear good-sized figures, a series of numbers. I give a diagram of one for the Addition Table, from which it will be obvious how the others are to be constructed:—

7	3	1	4	9	5	7	8	6
9	5	3	8	4	6	5	4	2
9	11	10	15	12	14	15		
27	46	33	48	19	37	41		

The exercise is carried on in this way. The card is hung before the class; the teacher calls on one child to add (say) 4 to each of the numbers; and the child goes on (repeating the several sums, *and nothing else*)—“eleven, seven, five, eight, thirteen,” &c., till he has gone over all the numbers on the card. Then another child is told to add (suppose) 7 to each, and so on, each going over the whole card with some particular number. The teacher listens to each, and speaks only when an error is committed, which must be corrected on the spot, either by the teacher himself, or by one of the children. When there is an error, set the child right at once, and let him hasten on to the end of his journey. This exercise is very fatiguing on the children and should not be continued long.

The exercises in subtraction, multiplication, and division are carried on in a similar way; but observe, the child utters nothing all through but remainder, product, and quotient (or quotient and remainder) respectively. These exercises have the additional advantage that they can be carried on by a monitor almost as well as by a teacher.

**339.** The fourth and higher classes are required by the Programme to know the tables of weights and measures. The best way to have these taught is to give them as home lessons: they are examined by getting each pupil to repeat each table from beginning to end. But besides this, the pupils must be continually practised in school. I warn the teacher to keep up **a fresh and ready knowledge of the tables** in his higher classes. It is quite usual to find high class pupils failing in such tables as Long Measure, Square Measure, Measure of Capacity, &c., while at the same time they are able, or profess to be able, to solve questions in the higher rules of arithmetic. If a pupil is ignorant, either wholly or partly, of any particular table, he is of course liable to fail in any question involving a knowledge of that table; and at the Results Examinations there are always many failures in arithmetic from this cause.

Half an hour set apart once a week or so for a general repetition of tables, will be sufficient to keep up a knowledge of them. At these lessons, along with repeating the several tables from beginning to end, the pupils should be cross-questioned:—how many feet in an English perch? How many pints in a gallon? &c.

**340.** It is also most useful, and indeed necessary, to make all the pupils of the higher classes get off a "**Table of Constants,**" i. e., a short table of certain numbers, weights, and measures, which are often met with and are important to be remembered. I give one here as a specimen; and a glance will show its great utility.

$$1 \text{ lb. Troy} = 5760 \text{ grains.}$$

$$1 \text{ lb. Avoirdupois} = 7000 \text{ grains.}$$

$$1 \text{ English mile} = 1760 \text{ yards.}$$

$$1 \text{ English mile} = 5280 \text{ feet.}$$

$$1 \text{ Square mile} = 640 \text{ acres.}$$

$$1 \text{ Gallon} = 277\cdot274 \text{ cubic inches,}$$

- 1 Gallon of water = 10 lbs. avoirdupois.  
 1 Cubic foot of water = 1000 oz. avoirdupois.  
 1 Solar year = 365 d., 5 h., 48 min., 49 sec.  
 11 Irish miles = 14 English miles.  
 121 Irish acres = 196 English acres.  
 Breadth of a halfpenny = one inch.  
 Seconds pendulum = 39·139 inches.  
 Metre = 39·3708 inches.

330. What are the *four* essential branches? What is the really important thing in arithmetic? Define good practical arithmetician?
331. Mention a prevalent mistake in connection with this? In what part of arithmetic should pupils be exercised every day—or often—and why?
332. How are the first lessons in arithmetic to be given? Describe how the ball-frame and the black board are used in teaching the digits?
333. Show how the addition of small numbers is taught by the ball-frame. Show how the children are led to the knowledge of abstract numbers. Show the application to arithmetic of "proceeding from the concrete to the abstract."
334. What are the four elementary "Tables"? Describe the addition table. Describe how the children are to be introduced to the addition table in their table-books. Describe the several exercises as they advance, till the final exercise of adding numbers promiscuously.
335. Show that addition table should be taught before multiplication table. Danger of slowness in addition table?
336. Describe the subtraction and multiplication tables, and how the children are to be exercised in them.
337. How is the division table best taught?
338. Describe in detail the manner of exercising the children in the four tables by means of tablets. Write out a card for each of the four tables. What are the advantages of teaching from these tablets?
339. How are the tables of weights and measures best taught? Show their importance?
340. What is a table of constants? Its use? Write out a short table of constants?

## 2. MENTAL ARITHMETIC.

**341.** Mental arithmetic is as important as any other part of a child's arithmetical education: in all transactions involving number, facility and certainty in common easy mental calculations will be found perpetually useful. The generality of people very seldom use slates or paper, but there is no member of the community, down to the very humblest mechanic or labourer, that has not, almost every day of his life, to calculate mentally. No other literary acquirement, except reading, is so often used, and this simple fact is suffi-

cient to show the great importance of directing special attention to it.

**342.** Mental arithmetic does not mean merely a number of short rules of calculation. The term has a wider signification, and means not only these technical rules but **all kinds of numerical combinations** to be performed mentally, from Addition Table up to the most complicated operations. In these the children should be exercised till by constant practice they acquire dexterity and power in every possible variety of numerical computation. The advanced pupils should be made familiar with the most useful contracted methods, and should be frequently exercised in them; but it is a great mistake to confine them exclusively to such rules.

**343. Elementary stages.**—The junior children should be kept at easy mental calculations for ten minutes or so every day. For the very young children, mental arithmetic is nothing more than common tables. Those who are merely beginning should be first employed chiefly in counting and adding objects placed before them, as described in Paragraph 333.

As soon as they are able to count up to 20 or 30, and able to count backwards, they should begin to add and subtract little numbers in their minds. The calculations should be at first extremely easy, and the numbers should refer to objects; thus, "How many are 4 apples and 2 apples?" "If a boy had five marbles, and found two others, how many would he then have?" "Five cows and three cows?" If a boy answer wrong, he should be made to correct himself by actually counting the balls or chalk marks. Thus, to the question, "4 eggs and 3 eggs?" suppose a child answers, "Eight eggs!" The teacher makes him first count out four balls to stand for four eggs; next he counts out three balls; and then he counts how many he has brought out altogether, when he will at once see his mistake. In all cases the child should be as far as possible made to discover and rectify his own error.

The children should also be practised in counting up and down, passing over every other number; thus a child repeats 1, 3, 5, 7, 9, &c., or 22, 20, 18, 16, &c. The multiplication table should not be introduced at all at this early stage. The chief part of the time should be occupied in practising easy addition and subtraction exercises, such as 4 and 3, 5 and 4, 8 and 5, 4 from 11, &c. At such little calculations the children should be exercised day after day, till they become so expert as to be able to perform them without hesitation. This result the teacher must not expect too soon; he must wait with patience, for expertness is to be attained only slowly, and after long practice.

**344.** The mental exercises of the next higher section of the junior division, will be somewhat more advanced. As soon as they can combine single digits with facility, they should be exercised in adding and subtracting numbers not greater than nine to and from numbers consisting of two digits, in the manner recommended in last section: the use of the word *minus* for subtraction will be found very convenient at this and at all future stages. Thus, 19 and 9, 67 and 5, 48 and 7, 26 minus 8, 48 and 5 minus 6, &c., &c.

In the beginning the children will generally count on their fingers for all such questions as the foregoing. It is easier for a child to make out the answer by finger counting than to do so in his mind, and he will always adopt the easy plan if allowed. But this very practice keeps him back; a child must be accustomed to work mentally, without any external help, in order to make him a good calculator; and without exercising over severity, the teacher must prevent all counting either by fingers or dots, as soon as he can possibly accomplish it. Such exercises as these in plain addition and subtraction will afford a sufficiency of employment to these drafts; and they require such a small amount of teaching skill, that any careful monitor can keep a class at work in this manner, almost as profitably as the teacher himself.

Another very useful mental exercise is ascending and descending by threes, fours, fives, &c., or in money by  $1\frac{1}{2}d.$ ,  $5d.$ , &c., according to the proficiency of the class. Thus you tell a child, "Begin at 7 and go up by fours," and he goes on, 7, 11, 15, 18, &c., till told to stop; or to begin at 60 and come down by sixes, or to begin at a shilling and go up by  $1\frac{1}{2}d.$ .

From the very commencement they should be exercised in money calculations, the difficulty being graduated according to the proficiency of the class. Of these, the greater part will be computation of prices; thus, the price of 9 arithmetics at  $6d.$  each; of 5 caps at  $3s.$ ; the change to be received out of half a crown, after buying 4lbs. of sugar at  $5d.$  a pound, &c.

**345.** *Advanced stages.*—For the senior division, the first ten minutes of the (floor) arithmetic time every day should be devoted to mental arithmetic; or if the teacher prefer, he may take the whole half hour on two days of the week.

Those who are working short or long division should be quite familiar with all the exercises already mentioned—should be able to add a single digit to any number without the slightest hesitation, and should know perfectly the multiplication and pence tables. They should be exercised in adding larger numbers, as  $37 + 19$ ,  $48 + 26$ , &c. Combinations of more than two numbers should be presented to them; thus  $39 + 11 + 5 - 8$ , &c.

**346.** The mental arithmetic of the most advanced classes should be very varied in its character. It will be well if the teacher prepare each day's questions beforehand, writing them down in a note-book with the answers all made out. Let the pupils be kept constantly at work, combining numbers in almost any way. There is no difficulty in framing such questions as the following, and they are just as useful as any others:—Add 127 and 136; subtract 57 from 1001;  $19s. 7d. + £2 16s. 9\frac{1}{2}d.$ ? how much is the sixth part of  $46s. 6d.$ ? 5 times 167? the amount of 93 fourpenny pieces; of

137 half-crowns? the price of 39 books at 4½d. each? along with five half-crowns, how many fourpenny pieces in a pound? How much money should you have to give 1s. 3d. each to fifteen persons, and have 10½d. left? By how much does the product of  $20\frac{1}{2}$  and 4 exceed their sum? How many steps does a man take in a mile, if each step is three feet? Look at the clock and tell what o'clock it will be in 3 hours 23 minutes.

**347.** When they have become moderately expert in solving such questions as these, they should be made acquainted with the more useful short rules. The following are easily remembered—(1) The dozen rule; (2) the score rule; (3) the gross rule; (4) the rule for 100 articles; (5) the two rules for yearly wages at so much per day; (6) the hundred weight rule; (7) to find the price of a number of articles at an even number of shillings each; (8) to find the interest of any sum for a number of months at 5 per cent. per annum; (9) the rule also at 6 per cent. The pupils should be encouraged to invent short methods for themselves; but take care that when the pupils have begun to calculate by short rules, too much of the mental arithmetic time be not given up to them.

**348.** There are several ways of receiving answers from the pupils at mental arithmetic. Let the teacher put the question, and let every child who can answer hold out his hand; the teacher then takes the answers of four or five before giving the final decision. While receiving answers from several in succession, he must be very careful **not to indicate in any way** whether the answers are right or wrong, till he pronounces finally. If the least gleam of satisfaction appear on his countenance on hearing any particular answer, every child will conclude this to be right, and will give the same answer. Or perhaps a better way: they hold their slates in their left hands; the teacher puts the question, and after waiting a reasonable time gives the word, "Down," when all instantly write

down the answers (previously calculated), and show slates. The teacher glances at each, and determines those that are right. This method has the advantage of showing the whole of the successful answerers.

**349.** Take care that **all be at work**: some lazy boys will not work if they can manage to escape the teacher's notice. Be careful also not to receive the whole of the answers from two or three quick boys at the head. The teacher must pour forth his questions without delay or hesitation—a matter of very easy accomplishment, even for a monitor, especially if the questions be prepared beforehand. Get through as many questions as possible within the time; *the profit of the lesson is in proportion to the number of questions that have been answered correctly by the pupils.*

**350.** In all mental calculations, in whatever class—low or high—this rule should be observed: the children, while calculating, should not be allowed to mutter audibly, or even to move the lips or contract the brows; they should do the calculation looking quite calm all the time, and they must not count on their fingers. There should be in fact no exterior manifestation of the interior intellectual exertion; the first thing heard should be the answer.

- 341. Show the utility of mental arithmetic.
- 342. Give a proper definition of mental arithmetic.
- 343. Enumerate the several mental arithmetic exercises suitable for little children.
- 344. Give those suitable for senior part of junior division. How would you deal with counting on fingers? What are the advantages of keeping the children exercised mentally in plain addition and subtraction? Describe the exercise of ascending or descending by common numbers. How far should children be exercised in money calculations?
- 345. How do you get time for the mental arithmetic of senior division?
- 346. Describe the various kinds of mental arithmetic exercises for the senior division.
- 347. Enumerate *nine* short rules. Precaution as to use of short rules?
- 348. Best ways of receiving answers in mental arithmetic. How is the teacher to comport himself while receiving answers?
- 349. How manage lazy pupils? How many of the pupils should be working? As to the rate of the teacher's questions? On what does the profit of the lesson depend?
- 350. What precautions as to voice and gesture of children at mental calculations?

## 3. SLATE ARITHMETIC IN DRAFTS.

**351.** In the draft or floor teaching of arithmetic, the exercises should be taken down by the pupils **from the dictation of the teacher**, or the person in charge of the class. The sums should not be written on the black board for the pupils to copy except for some special reason; as for example when the class must be left in charge of a pupil while the teacher is engaged elsewhere for a short time; here the teacher might leave after him a number of exercises written on the black board.

**352.** Before going further I must impress on the teacher the necessity of giving different exercises to those that stand next each other, **so as to make copying impossible** (Paragraph 187). There are several plans for this, one of which is as follows:— Number the children suppose by threes, beginning at the top, 1, 2, 3—1, 2, 3—1, 2, 3, &c. Then have three separate exercises (they may be all the same except in one or two figures): dictate to all till you come to the place where they differ: then “Let all the ones take—; all the twos take—; all the threes —.” Some arrangement like this should be adopted for all classes who get exercises from dictation at the draft circles. Or what will answer equally well, let all get the same, and let them stand far apart.

**353.** When a pupil has finished the work he drops his slate by his side, holding it in his left hand, and after this he should not be allowed to raise it to his eyes again, or make any alterations. When the teacher sees that all or nearly all have finished, he gives the order, “Show slates!” when each instantly holds up the slate in front of his breast, with the exercise turned towards the teacher, the slate being still held with the left hand.

**354.** If there be some wrong, the teacher, after having first given the order, “Slates down!” goes

himself through the work on the board if necessary, explaining the process, and interrogating the pupils to whatever extent he may deem expedient. The pupils should of course **cease from work and pay attention** while he is working and explaining. This is an important point to be attended to; for you will often see an inexperienced teacher going through an explanation on the board with only a few of the children attending to him, the rest continuing to work in a lazy sort of way, and paying no heed whatever to the master. The black board is the great instrument for explaining rules and teaching the children to work out examples in accordance with them, and the teacher should largely avail himself of it for these purposes.

**355.** The neatness of the slate work is a matter which commonly receives very little attention; the teacher is generally satisfied if he sees the correct answer, though the slate may be soiled, the figures deformed, the lines oblique, and the whole operation illegible. A child attempts to put down a number of addends; and the columns instead of being perpendicular, form lines oblique to the left, so as frequently to run out at the side of the slate and spoil the whole operation.

The slate should be well cleaned before beginning to work, the figures should be neatly formed, large, and not crowded on one another, and they should be in *perpendicular* columns and *horizontal* lines. If a child wants to draw a separating line under a few figures, he should not draw a curve across the entire slate; he should merely draw a *straight* line level across, not longer than the line of figures, and nearly but not quite touching them. The answer should always be written very distinctly, so as at once to catch the eye; and the denominations, when necessary, should be written over the figures.

**351.** How is draft teaching in arithmetic carried on? When is it allowable to write down exercises on the black board? How generally should exercises be given? Why not written on black board to be copied?

352. Describe an arrangement for giving adjoining children different exercises? Use of this? Another plan to prevent copying?

353. Describe discipline of slate-work at drafts.

354. When teacher is explaining, what should the children do? Prevailing error here?

355. What are the precautions as to neatness and mechanical arrangements? Prevalent errors here? How should the answers be written?

#### 4. NUMERATION AND NOTATION.

**356.** When little children are first introduced to the subject of figures, the exercises in numeration must of course be extremely simple. When they have become acquainted with the single digits, in the manner shown in Paragraphs 332 and 333, they should then be accustomed to read numbers of two digits, which is best accomplished in this way:—The teacher fills the black board with a variety of numbers—or still better, they may be written permanently on a sheet: pointing to each number, he exercises the children in turn in reading them off; and in the beginning, as each number is read off, the ball-frame should be referred to. Thus, when a child reads 23, make him count out 23 balls on the frame.

As soon as they know the digits, they must learn to make them on slates; there is a desk lesson for this special purpose, which will be noticed farther on.

**357.** The first class children are required by the Programme to read off and write down numbers of not more than three places. The best way to manage this is to teach them first to master numbers of two places in the manner recommended above. At this early stage the teacher must be very sparing in his explanations; and for teaching so far he will have to rely chiefly on continual practice with ball-frame, black board, and slates. When the children can write with facility numbers of two places, hundreds may be introduced. The real difficulty is in the management of numbers containing ciphers, such as 607 and 420; but even these require only a little explanation and management, combined with plenty of practice.

**358.** In teaching numeration and notation to the advanced classes, make the pupils understand that all numbers are divided into "periods" of three places each; in all ordinary cases three such periods will be quite enough to teach. Write a large number on the black-board and divide it into periods, explaining that the division must begin at the right. The first period to the right is the period of "units;" the next the period of "thousands;" and the next the period of "millions." Between each two periods a comma is placed.

In reading off such a number, the pupils should be directed to read the figure or figures of each period as if it were an ordinary number of so many figures, standing by itself, putting in the name of the period at the end. Thus, let the number be 407,360,432:—read the left-hand period as if it were 407 only, adding the word "millions;" the next as if it were 360 by itself, adding "thousands;" and the first period, 432, in the ordinary way—but here the word "units" need not be added.

**359.** Before entering on the notation of such large numbers, show the children in the first place how to express any number less than 1,000 as a part of a period of three places. Thus, to express seven in this way they write it 007; to express twenty-five they write it 025; and so on. They should be thoroughly grounded in this.

Then let them proceed to put down large numbers in this way:—The pupil is first to put down the highest period, after it a comma; then the next period with its terminating comma; and lastly the units period. A space may be left between the periods, slightly broader than between the other figures. Take great care that **the comma be put down** after each period before the pupils write the first figure of next period: it is very usual to allow them to put down the entire number first, and then turn back and put in the commas, which is a sure road to error.

**360.** The teacher dictates, "Sixty millions, five

thousands, and sixteen," and they put it down in the manner indicated. If he find some of the children wrong, he takes the chalk and writes the number on the black board, while all are looking on; questioning out of them each step of the operation something in this way: "How many millions are there?" (sixty): "then the first thing that goes down is—60." "What next?" (comma; which the teacher puts down accordingly). "What next?" (the thousands). "How many thousands are there?" (five; which the teacher puts down according to last paragraph—005). "What after the thousands?" (comma: down). "Next?" (the units). "How many are there?" (sixteen; which is put down—016.)

**361.** Besides the above, the pupils should know the **local value** of the figure in each individual place:—the third place (hundreds); the fifth place (ten thousands); the eighth place (ten millions), &c.; and in connection with this, the teacher will find it useful to ask such questions as the following: What number will 6 in the third place and 3 in the first place represent? 5 in the fifth place, and 2 in the second? &c.

356. Show how the children are to be taught to read off numbers of two digits. Use of ball-frame here?

357. How are first class children taught to read off and set down numbers of three places? What is the real difficulty?

358. Best way of teaching children to read large numbers? How read each period? Example.

359. What is the introductory step before the notation of large numbers? Describe how the pupils are to be taught to write down large numbers. In writing down large numbers, when is the division into periods made? Erroneous practice here?

360. Show the several steps of teaching children to write down 60,005,016 from dictation.

361. What should the pupils know as to the local values of the digits? Give some test questions.

## 5. THE SIMPLE RULES.

**362.** From the very beginning, the young children should be accustomed to the use of slates; this training should begin even with the lowest draft of the first

class. At the floor arithmetic lesson every day these little children should stand with slates in their hands at the circles round the black boards, like the more advanced classes, to receive exercises from dictation. Two drafts of the junior division may generally be joined round each black board.

**363.** *Addition.*—The children will have already been made to understand adding numbers together (Paragraph 333). The ball-frame teaching should be continued for some time: and the first exercises in slate addition should be in **applicate numbers**:— There are four flocks of sheep in four fields; in one there are 57 sheep, in the next 129, in the third 98, and in the fourth 60; they are all driven into one field; how many sheep in that field?

After proposing this exercise, the teacher will first work it out himself on the black board, while the children are all looking on; but he should question them all through, and as far as possible make them direct every important step in the operation. After the work is done he should then formally ask the question, “Now, how many sheep are there altogether?” They may next be required to work out the same exercise themselves on their slates; and after that, a number of similar questions.

If they have been made well acquainted with the addition table, they will go through these little exercises with facility. But once they know this table, and that they understand the nature and object of their work, dexterity, quickness, and correctness are to be attained only by practice. The teacher may generally confine himself to the number of addends as well as to the number of digits in each, required by the Programme.

**364.** There is yet one kind of exercise which should be frequently practised, not only by the children of these low classes, but also by those of the higher, the difficulty being graduated according to the proficiency of the pupils. The teacher writes on the black board

several columns of single digits, as in the margin; or what is far better, cards like those described at page 189 may be filled with columns of various lengths, and kept permanently.

The board or sheet is hung opposite the class and each pupil runs up one column, adding the digits as he goes along, and repeating aloud **the several sums only**, but not the digits, as is commonly done:—thus, in adding the first column, he repeats the numbers 9, 18, 26, 34, 41, 47, 49, 57, 66. The rest of the pupils look on, and put out their hands the moment they observe him wrong. This is a difficult exercise for beginners; they are at first slow and helpless, but they gradually acquire facility. A pupil who has long practised it, will be able to run up a line of 30 or 40 digits with great readiness, and with little danger of error. Any careful monitor will be able to conduct this exercise, if the teacher cannot be present.

**365.** Accustom them to take down and work such exercises as the following:—

367	7
45	30
4,937	9
9	369
908	405
57	99

They are very liable to go wrong in writing down from dictation numbers like these.

Do not allow them to write down on the slate the number to be “carried;” this should be kept in the mind without any external help.

In adding, the *sums* only of the successive digits should be repeated by the children, in accordance with the manner of going through the exercise recommended in Paragraph 364. They should be often got to per-

4	8	6	9
5	9	7	8
7	3	8	2
1	8	5	6
3	9	8	7
5	7	9	8
6	3	6	8
2	5	8	9
7	8	4	7
5	3	9	2

form the addition aloud, in order to make sure that they practise this.

As to tests of correctness:—I do not recommend the clumsy plan of “cutting off the top line,” which is perfectly useless in practice. If a test be considered necessary at all, the best, and indeed the only practicable one for general use, is to **add downwards.**

Most or all of these observations on addition apply to the high as well as to the low classes, allowance being made for the various degrees of proficiency.

**366. Subtraction.**—I proceed on the supposition that the children have been learning the subtraction table before they are put to work on their slates exercises in simple subtraction.

The first exercise should be in applicate numbers, and the digits of the subtrahend should be all less than the corresponding ones of the minuend. Begin with single digits; then proceed to numbers of two digits; and work a number of exercises, first mentally (if possible) and then on the black board. Then take numbers of three places. “There is a heap of pebbles containing altogether 276; I take away 125; how many pebbles are left?” The teacher will work out this for the children on the black board, questioning continually as he goes on with the work; and after this the children should be required to work several similar questions themselves.

Questions are next given them in which one or more figures of the subtrahend are greater than the corresponding ones of the minuend. The teacher will of course show the children very carefully how to manage exercises of this kind, and afterwards give them plenty of practice.

Exercises involving cyphers are next introduced; and lastly those in which the minuend contains more places than the subtrahend. The following include all the difficulties of simple subtraction:—

3,510	74,453	40,020	100,435	11,016
3,294	260	29,070	9,850	10,909

It is common enough to find pupils working Proportion and Practice unable to manage such test exercises as these. The teacher therefore must take special care to make his junior pupils quite familiar with them, and to occasionally exercise the more advanced pupils in them.

It will be quite useless, and worse than useless, for the teacher to attempt to make the little children of second or third class understand the reasons of all the processes in simple subtraction—such for instance as the reason for “carrying one”—this is a matter that must be deferred to a much later period in the children’s progress.

**367. Multiplication.**—There is no difficulty in teaching to multiply by numbers up to 12; and not much in teaching to multiply by numbers greater than 12 when the multiplier contains no cipher. The only real difficulty is when the multiplier contains one or more ciphers.

When there are ciphers in the multiplier the work may be done in one or the other of two ways. According to the first method the multiplier must be placed very carefully under the multiplicand, as in subtraction, i.e., with the units under the units, the tens under the tens, &c.; and in this part of the operation, as well as in what follows, the pupil must be sure to arrange the figures in very straight vertical lines. The first figure of each partial product is placed under the figure of the multiplier that produced it; and the work is continued to the end as in ordinary cases. Thus:—

$$\begin{array}{r} 9765421 \\ 500402 \\ \hline 19530842 \\ 39061684 \\ \hline 48827105 \end{array}$$

In working by the second method, you proceed as in the ordinary way till you come to a figure in the multiplier having one or more ciphers to the right of it. Put down in the proper places (the master will explain where) as many ciphers as lie to the right of the figure you are multiplying by (taking care to "skip" one place, as in the common examples); and then begin to multiply the figures of the multiplicand in the usual way, placing the successive products place after place to the left.

$$\begin{array}{r}
 9765421 \\
 \times 500402 \\
 \hline
 19530842 \\
 399616840 \\
 \hline
 48827105000
 \end{array}$$

Here when the pupil comes to multiply by the 4, he first (after skipping a place, in accordance with the general rule) places down one cipher before beginning to multiply. When he comes to the 5, he first places down three noughts, and then proceeds with the rest of the work.

The first method is more scientific, but the second is very convenient in practice. The teacher will adopt whichever he thinks most convenient.

**368. Division.**—It is so easy to teach children how to work short division—especially if they are well up on the division table—that I do not think it necessary to give any detailed directions on the matter. The teacher will of course constantly use the black board and the ball-frame in the beginning: and for some time each division exercise should be proved by multiplication, the connection between the two processes being explained to the children. When they are sufficiently expert in short division, they then proceed to long division.

The best way to introduce the children to long division is to work on the black board for them a few short division exercises **by the long division process;**

and then to make them work others in the same manner on their slates. The teacher should also, in the beginning, exhibit on the black board the same exercise worked both ways, and explain that the difference between the two processes consists in this, that in short division there are several of the successive operations performed mentally, which in long division are written down as the worker goes along. The children will then be required to work several examples both ways. When they are well able to do this, it will not be difficult to show them how to work long division exercises with small divisors, such as 13, 21, 34, &c., which will pave the way for the longest exercises required.

**369.** When a divisor consists of one or more ciphers after a number less than 13 (12000, 800, &c.) the pupils should be made to work by short division, instead of using the long division process, as you very often see done. Of course they must be shown very carefully how to make out the remainder: arrange as in short division; cut off from the dividend as many figures as there are noughts in the divisor; and at the end, annex the partial remainder to these, for the final remainder.

$$\begin{array}{r} 1,200) \ 6459,37 \\ \hline \end{array}$$

$$\begin{array}{r} 538—337 \\ \hline \end{array}$$

**370.** The pupils should be taught how to divide by factors, and may be accustomed to use this process instead of long division, whenever the factors are obvious. So far as children are concerned, **not more than two factors** should be used; and in order that even these may be available, each must be less than 13. A division by three successive factors is too complicated for children to manage with any degree of certainty. When there are two factors, the rule for the remainder is very simple, and the pupils should often be got to repeat it:—multiply the last remainder by the first divisor and add in the first remainder. In order to show the final remainder clearly before the eye, they

should be accustomed to use a bracket with the partial remainders in this manner :

$$\begin{array}{r} 7) 684,031 \\ \underline{-} 497,718 - 5 \\ \hline 24,429 - 2 \end{array} \quad \left. \begin{array}{l} \\ - 5 \\ \hline \end{array} \right\} \quad 19$$

**371.** To a moderate extent, the nature of the four Simple Rules should be explained to the younger children.

What is the use of addition? To find one number as large as several others put together. (Illustrate by examples.)

Of Subtraction? To find how much one number is greater than another; or to find the difference between two numbers. (Example.)

Of Multiplication? To find what a number will amount to when repeated a certain number of times. Thus, to find what 374 will amount to when repeated six times:—show that this exercise may be done in two ways, by addition and by multiplication; and let it be actually done both ways. Which is the better and shorter way? The children will here see, what they should be continually reminded of, that multiplication is merely a short way of working certain sums in addition. Can every sum in addition be done by multiplication? (No.) What sort of addition sums can be done by multiplication? Those in which the numbers to be added (or the addends) are all the same.

Give similar explanations of division.

**372.** When an applicate question is proposed, the children, before beginning to work should generally be asked by which of the four rules it is to be solved. This observation applies especially to such questions as the following, which the children should be accustomed to answer, for questions of this class give the little learners a very clear insight into the nature and functions of the Four Rules.

What number must be subtracted from 378 so as to leave a remainder of 195?

What number must be added to 768, so that the sum may be 1,395?

A clock strikes 156 times every day: how many strokes will it have struck at the end of the week?

How many days will it take a clock to strike 2652 times?

How often could 12 be subtracted from 411?

A's farm contains 936 acres and is thirteen times as large as B's: how many acres in B's farm?

What number multiplied by 68 will give as a product 2,448?

What number divided by 37 will give as quotient 26?

What is the seventeenth part of 867?

The product of two numbers is 428: 24 is one of the numbers; what is the other?

In how many days will a man walk from Dublin to Cork, 165 miles, walking at the rate of 15 miles a day?

362. How should the young children be trained in the use of slates? How are junior divisions grouped round the black boards?

363. What kind of questions in addition should be given first? Give an example of a question and of the way it is worked. How are quickness and accuracy to be acquired?

364. Show the way to exercise children in mental addition by a card. Write out such a card, and show its use.

365. Give examples of addends which children are liable to put down wrong. How manage number to be "carried?" What words only should they repeat in adding? Best test of correctness?

366. What should be the first exercise in subtraction? Example. Write down an exercise containing the chief difficulties in subtraction. Write five exercises containing all the difficulties. Describe in words the chief difficulties.

367. What is the chief difficulty in multiplication? Describe the two ways of working an exercise when the multiplier contains ciphers. Advantages of each?

368. How begin short division? Best way to introduce long division? How use black board?

369. How should pupils be made to divide by such a number as 1,100? Illustrate.

370. How far should divisor by factors be practised by children? Rule for remainder. Illustrate proper arrangement.

371. Write out questions intended to show the children the nature of the four simple rules.

372. Write out a number of questions to test the children's ability to apply each of the four rules in the proper case.

## 6. REDUCTION.

**373.** Reduction should be introduced by examples of the simplest kind, which, for some time in the beginning, should be confined to a single denomination. How many shillings in £13? If the children have been properly taught in the preceding rules, they will see without difficulty that to answer this question they will have to multiply the 13 by 20:—why? Because there must be twenty times as many shillings as pounds. How many shillings in 204 pence? Here again they will see—or can be easily made to see—that 204 will have to be divided by 12: because there must be as many shillings in 204 pence as there are twelves in 204.

When the children understand this, they should be made to work on slates several examples like the preceding, selected from various tables of weights and measures.

At this stage they should be made to understand the meaning of the terms “Reduce” and “Reduction.” This is the time also to define “Reduction Descending” and “Reduction Ascending;” and to deduce and explain the rule—which must henceforward be kept continually before their minds—that Reduction Descending is done by multiplication, and Reduction Ascending by division: the multiplier or divisor being of course the number of the lower denomination contained in the higher.

**374.** Easy complex examples in both kinds of Reduction may now be introduced; but I will not enter minutely on this part of the subject, as it does not present any difficulty. The following points however are very important. In Reduction Descending, the children should be accustomed **to state the rule** for any of the tables after this manner:—multiply the hundreds by 4 for quarters, and add in the quarters; multiply the quarters by 28 for pounds, and add in the pounds.

They should also be able to answer the following questions in an exercise such as this :

£	s.	d.
15	13	$7\frac{3}{4}$
20		
<hr/>		
313		
12		
<hr/>		
3,763		
4		
<hr/>		
15,055		

Of what denomination is the 313? What are the 313 shillings equal to? (£15 13s.). The denomination of 3,763? What are they equal to? (£15 13s. 7d.). The denomination of 15,055? What are 15,055 farthings equal to? (The whole sum given—£15 13s.  $7\frac{3}{4}$ d.)

So also in Reduction Ascending, they should be accustomed to state the rule something in this way :— Divide the perches by 40—the quotient will be roods, the remainder perches; divide the roods by 4—the quotient will be acres, the remainder roods. And as in Reduction Descending they must be accustomed to answer questions like these :—

$$\begin{array}{r}
 \text{Farthings.} \\
 4)43074 \\
 \underline{12)10768\frac{1}{2}} \\
 20)89,7-4 \\
 \underline{44} \quad 17
 \end{array}$$

Answ. £44 17s.  $4\frac{1}{2}$ d.

How many pence in 43,074 farthings? How many shillings in 43,074 farthings? (897 shillings, and 4½ d. over). How many pounds, shillings, and pence in 43,074 farthings?

373. How should reduction be introduced? Give specimens of initiatory exercises. When and how would you explain the terms "reduce," "reduction," "reduction descending," "reduction ascending?"

374. When are complex examples introduced? What points are necessary to be attended to in reduction descending? In reduction ascending? Give examples and explanations in each case, and point out in detail the questions the children should be prepared to answer.

## 7 DECIMALS.

**375.** Addition, subtraction, and multiplication of decimals are very easily managed: and no pupil will go wrong in them who pays the slightest attention to his work. But in division the case is different. Here the learner is liable to err in the placing of the decimal point in the quotient, which is the sole difficulty.

Teach the rule according to the following arrangement and there will be small chance of error:—

- (1.) Short division when the divisor is a whole number.
- (2.) Long division when the divisor is a whole number.
- (3.) Division (whether long or short) when the divisor contains decimals.
- (4.) When the divisor contains a circulate.

Let the pupil master each of these before proceeding to the next.

**376.** In case (1) there will be no difficulty in placing the decimal point in the quotient, if the figures of the quotient are placed under the corresponding figures of the dividend, as in the following examples:—

$$11) \underline{76.439}$$

$$\underline{6.949}$$

$$7) \underline{6.107}$$

$$\underline{.8724}$$

$$6) \underline{1671}$$

$$\underline{.02725}$$

**377.** Case (2) is difficult if the quotient be placed to the right of the dividend, as learners usually place it. But it is as easy as the first if the quotient be placed over the dividend, so that the quotient figures stand directly above the corresponding figures of the dividend, as in the following examples. Observe, the only difficulty lies in the placing of the first figure of the quotient, which must be put directly over the last figure of the first partial dividend. These two examples require no further explanation.

$$\begin{array}{r}
 & 23 \cdot 593 \\
 75 ) & 1769 \cdot 5 \\
 & \underline{150} \\
 & 269 \\
 & \underline{225} \\
 & 445 \\
 & \underline{375} \\
 & 700 \\
 & \underline{675} \\
 & 250 \\
 & \underline{225} \\
 & 25
 \end{array}
 \qquad
 \begin{array}{r}
 & \cdot 000552 \\
 47 ) & 02597 \\
 & \underline{235} \\
 & 247 \\
 & \underline{235} \\
 & 120 \\
 & \underline{94} \\
 & 26
 \end{array}$$

**378.** An exercise in case (3) is changed at once to one in case (2), or one in case (1), by this simple contrivance:—Remove the decimal point to the end of the divisor, which converts the divisor into a whole number: remove the decimal point in the dividend as many places to the right: then proceed with this new divisor and dividend, as in case (2), or as in case (1).

Only observe this very necessary precaution:—take down at the start the original divisor and dividend—the divisor in its proper place on the left of the dividend. **Let these stand** without any alteration: and place under them the new divisor and dividend, on which you work. Thus, the work of dividing 7·6987 by 37·01, and also the work of dividing 1·019 by ·0176 will stand as follows:—

37·01

7·6987

·0176

1·019

$$\begin{array}{r} \cdot 208 \\ 3701) 769\cdot87 \\ \underline{-740} \quad 2 \\ \hline 29 \quad 670 \\ \underline{-29} \quad 608 \\ \hline 62 \end{array}$$

$$\begin{array}{r} 57\cdot89 \\ 176) 10190 \\ \underline{-880} \\ \hline 1390 \\ \underline{-1232} \\ \hline 1580 \\ \underline{-1408} \\ \hline 1720 \\ \underline{-1584} \\ \hline 136 \end{array}$$

**379.** In case (4), the best plan is to convert the divisor into a vulgar fraction. Then you can either (a), let the dividend stand in its decimal form, and divide it by the divisor in its fractional form; or (b) convert the dividend also into a fraction, and proceed as in division of fractions, reducing the quotient if necessary to a decimal. But (a) is generally better than (b).

Thus to divide 16·397 by 3·167. Here 3·167 =

$8\frac{166}{990}$ ; and the work of dividing 16.397 by  $3\frac{136}{990}$  or  $\frac{3136}{990}$  will stand as follows:—

$$\begin{array}{r}
 16.397 \\
 990 \\
 \hline
 1475730 \\
 1475730 \\
 \hline
 3136)16233.030(5.176 \\
 15680 \\
 \hline
 5530 \\
 3136 \\
 \hline
 23943 \\
 21952 \\
 \hline
 19910 \\
 18816 \\
 \hline
 1094
 \end{array}$$

There is, properly speaking, a fifth case—when there are circulates in both divisor and dividend—but it differs so little from the fourth case that I do not think it necessary to notice it here.

375. Give the four headings under which division of decimals is to be taught.

376. Give rule in case (1), and illustrate. Precaution here in actual working?

377. Give an example of case (2) (long division—divisor a whole number), and show the way to work it. The only difficulty?

378. How is case (3) to be worked? What particular precaution is necessary? Give example and work it fully.

379. Best plan to work exercises in case (4) (when divisor contains a circulate)? Give example and work it. State a fifth case.

## 8. WORKING FROM CARDS.

**380.** The chief object which the teacher should aim at is to give the children accuracy and rapidity in simple and compound rules. Understand clearly that the improvement of the pupils in practical calculation within any given time—a month, a day, or during one lesson—depends mainly on **the number of exercises** they work, either correctly or with a small number of mistakes. In all lessons therefore devoted to practical slate arithmetic, let the pupils be kept uninterruptedly at work; let as many exercises as possible be crowded into the time; and while exercising a proper degree of caution in avoiding mistakes, every possible inducement should be held forth to stimulate to rapidity in working.

**381.** The teacher will find the use of cards a great aid in accomplishing this. On a moderately large sheet or card, say 20 inches by 15, a number of exercises are written. The figures, which must be sufficiently large and plain to be seen by a whole class, may be written either with a pen, or with a piece of cane pointed like a pencil and dipped in ink. The exercises are numbered, and the answers (also numbered) are all written out on the page of a little book. Old arithmetical or spelling tablets form a very good material for the cards, renewed by pasting clean sheets on each side. Each sheet or card should contain from twenty to thirty exercises.

This card is hung in the centre of a class, within view of the pupils, and the teacher or monitor stands within the circle, with the answers in his hand.

**382.** The pupils all begin to work at the same moment, and at the same exercise; in every case they copy the exercises on their slates, and they compete for the honour of working the greatest number within the given time. When a pupil has finished an exercise, he shows it to the monitor or teacher, who, consulting his table of answers, pronounces the word "Right" or "Wrong;" and the successes of the several pupils should be marked on a slate.

**No pupil is allowed to pass over an exercise till he brings out the answer.** When the time has expired, all cease at the same moment at a given signal; and the amount of each pupil's work is summed up.

**383.** There should be a variety of cards; for when they are few, the pupils get to know the answers. The exercises on a single card should all be of the same kind, and about the same in length and difficulty. There should be several with addition exercises both simple and compound, of different degrees of length to suit the different classes. There should be exercises in all the simple and compound rules, in reduction, in proportion, in practice, &c.

**384.** Once the children come to be able to work the simple rules with moderate facility, they should begin this card work. The exercises should be so easy in relation to the class, that a considerable number may be worked within one half hour. If they be too long or difficult, the work goes on slowly, and the children lose all spirit and animation. The work may be occasionally varied by placing two classes opposite the same card to contend against each other; this, when properly managed, never fails to create a great amount of healthful emulation.\*

380. On what does the improvement of the pupils in practical calculation within any given time depend?

381. Describe a plan for supplying the class with exercises by means of cards or sheets.

382. Show how the pupils are to work through this, and how the marks are recorded. If a pupil is wrong, what is to be done?

383. How many cards should there be? Why so numerous?

384. Of what degree of difficulty or length should the exercise be? Describe several ways of working.

\* A very useful and convenient mechanical arrangement for exercising all the classes from Third up, simultaneously, in Addition of Money, is described in the preface to the "Civil Service Examination Papers," by L. J. Ryan, Head Master of the Central Model Schools, Dublin. This is a very useful little book, containing a vast number of excellent miscellaneous exercises; and every advanced pupil ought to have it for himself and work through it.

## 9. ARITHMETIC IN DESKS.

**385.** In the time-tables of Chap. III., Part I., each division has generally got one desk lesson each day in arithmetic. For very young children—mere beginners—the proper employment during this time is learning to write figures. A black board is hung before them, with a line of figures neatly chalked on it; these they copy on their slates, filling up line after line, the monitor adopting the same precautions as to position, hold of pencil, and formation of figures, as at the writing lesson.

**386.** For those a little more advanced, who are able to work easy sums, a variety of exercises can be devised. One of the most obvious is copying down and working short sums, which have been chalked by the monitor on the black board. Or let them fill their slates with numbers, every one of which is greater or less than the one preceding, by a common difference, as described in Paragraph 344; this exercise must be graduated in difficulty to suit the class. This will always be found an excellent exercise for young children. See that they make the figures large and neat, and that they separate each number from those before and after by a distinct but not too broad an interval. Writing down tables is also a very useful exercise.

**387.** But for those who can work even simple addition with any degree of facility, as well as for all who are farther advanced, the best general employment is working exercises from the books. For this purpose *every pupil should be provided with an arithmetic of his own*; if this be not the case—if some be without books—the arithmetical work cannot be successful. Each works independently of all others, and where he ends to-day he begins to-morrow, thus advancing through the book as far as he is able to go. When a child has finished an exercise, he holds up his hand as a signal, and the teacher or monitor in charge glances at the work, and pronounces it right or wrong.

**388.** A child should never be allowed to look at the answer—or even glance at it however hastily, till the sum is done: children who are let do this can never work sums independently, and will be pretty sure to fail at the examinations, where they are thrown completely on their own resources.

**389.** The business of the person in charge is **threefold**: first, seeing that all the little students are constantly at work; secondly, examining the exercises when finished; and thirdly, assisting those who need it.

It is not every pupil who fails in bringing out his answer that needs help; to understand this, observe that in working arithmetical exercises, pupils are liable to fall into **two kinds of errors**—errors of method and errors of calculation. If a child be ignorant of the proper *method* of working a question, he generally needs assistance; in this case show him the right way and then let him work it out for himself. But if he knows the right method and goes wrong in the calculation, he generally needs no assistance at all; he should be made to help himself. Difficulties of the former kind seldom occur; in nine cases out of ten, when a child fails, it arises from an error of calculation. If the pupils be allowed to have their own way they will call often enough for assistance.

Many teachers act most injudiciously by looking over a wrong calculation to discover and point out to the pupil the exact place where he went wrong, and some even go so far as to take the slate in their own hands, and perform the entire work from the beginning, while the pupil looks on! All this is very injurious, for it tends directly to destroy the pupil's sense of self-reliance. But if the teacher sees the child evidently weary he might give him a little help.

**390.** The time-tables given in Chap. III., Part I., generally afford two lessons on arithmetic per day, one at the circles, the other in the desks from books; this arrangement combines the advantages of both methods

of teaching the subject, and at the same time counteracts their respective disadvantages.

**391.** Those that copy and write from dictation on paper, *i.e.*, third class and all above, and the best of second, **should use paper** when they are at arithmetic in desks. The observations made on this subject in Par. 311 apply in full force here. If the teacher see fit, the pupils may be allowed to work the exercises in the first instance on slates, from which they may copy them into their paper.

**392.** Particular attention should be given to neatness and clearness of work. An almost universal fault of paper workers is too great a desire to economise space, as if paper were excessively expensive; the figures are small and closely packed together, and so many exercises are crushed into one page, that it presents a confused mass of figures, which would strike you at first sight as being all one long operation. But paper is now cheap enough, and the pupils should use plenty of it. The figures should be large and well formed; they should not be crowded one on another, but on the contrary, the work should be quite open. The lines should be drawn straight and without any ornamentation. The different exercises should be separated one from another by a clear space; and **the answer should be clearly written out** after each, with the word "Answer" before it, so as at once to catch the eye of the examiner:—"Answer £3 14 6." To ensure neatness each child should be furnished with a little ruler and a piece of blotter.

385. How are very young children employed at arithmetic in desks? How supplied with exercises?

386. Describe several kinds of desk exercises for your children.

387. What is generally the best way of keeping the children who can work easy sums employed? Show necessity of the children having books.

388. Danger of allowing children to glance at answer while working?

389. Threefold business of person in charge. In what case should a pupil get assistance? In what case not? The two kinds of errors in working exercises? Mention some injurious practices as to giving assistance.

390. Use of having both a floor and a desk arithmetic lesson.

391. When should the pupils begin to use paper at desk work? How far may slates be used as a help?

392. Mention a common fault of paper workers. Several precautions as to arrangement in paper working? What should each child have to ensure neatness?

## 10. THEORY OF ARITHMETIC.

**393.** Not many years ago it was a universal cause of complaint that arithmetic was taught too mechanically; that with the finest opportunity, the minds of the children were never exercised in understanding the reason of the rules and processes. The same complaint is still not unfrequently heard, and is often justified by the dry, dull, uninteresting way in which the children are taught this important branch.

To a moderate extent, and as far as the pupils are able to profit by and understand them, the different rules and processes should be explained. The nature of our system of notation, the reason of "carrying" in addition, subtraction, and multiplication; the reason of multiplying the second and third and dividing by the first in proportion; the meaning of the different multiplications, divisions, and taking of parts in practice; the nature of fractions, &c. &c.; these and many other matters, should in due time be explained to the pupils.

**394.** But take care not to begin too early or attempt too much. What shall be said of a boy, who has been apparently taught the reasons of all the ordinary processes, but who cannot, without repeated blunders add a short column of pounds, shillings, and pence, or work a common question in practice! And what estimate shall be formed of the teacher's common sense who persists in giving long theoretical explanations to children who cannot tell you the sum of 25 and 8 without counting on their fingers!

**395.** As for the assertion that a pupil must never learn any rule or operation without fully understanding the reason of it, this is the dream of a mere theorist in the science of school teaching. Can any one for a moment suppose that a child of nine or ten is capable of

comprehending the reason of the process in long division, or of numerous other operations of a similar kind ? The attempt to make children understand the reason of every arithmetical process they are called on to perform, is absurd, like every other attempt to accomplish an impossibility. It is mischievous in its consequences, for besides puzzling, perplexing, and wearying the child to no purpose, it wastes the valuable time that might be profitably employed in exercising him in simple, practical, and useful calculations.

**396.** Teach principles and reasons as far as your own time and the intelligence of the children will permit, but at any rate **make the children good calculators.** The teacher who accomplishes this has done his duty, even though his pupils be only imperfectly acquainted with what is called the *rationale* of the different processes.

Generally speaking, with the exception of the very easiest and simplest principles, the demonstrative parts of arithmetic should be deferred till the children are advanced. From an early period however they should be made familiar with, and should constantly use the most important technical terms, such as sum, product, remainder, quotient, &c. They should be accustomed to define and explain these terms, and to state verbally **the mode of procedure in the different rules.** The teacher will take care that these definitions and explanations be sufficiently simple for the children of the different classes; and he will make himself sure, by constant interrogation, that they clearly understand them.\*

\* For plain demonstrations of the rules of arithmetic, expressed in simple, intelligible language, the reader may consult "The Principles of Arithmetic," by Professor O'Sullivan, Ph. D., M.R.I.A. And it would be hard to find anywhere a series of exercises and examination questions so exhaustive and so skilfully arranged as those contained in his succeeding work, "The Practice of Arithmetic," Parts I and II.

393. How far should arithmetical rules and processes be explained to children? Mention some things that ought to be explained; and some that ought not.

394. At what stage should theory begin? Show the evil of too much theory and too little practice. Give an illustration.

395. Must a pupil know the reason of every arithmetical rule he learns? Show the evil of attempting this.

396. As regards (1) principles, (2) calculations, when may the teacher be said to have done his duty? In what classes should the demonstrative parts of arithmetic be introduced? Enumerate several of the principles that advanced pupils should be familiar with.

## CHAPTER VI.

### ENGLISH GRAMMAR AND COMPOSITION.

#### 1. TWO OBJECTS IN TEACHING ANY SUBJECT.

**397.** We have commonly **two objects** in view in teaching any particular branch of school learning:—First, as an intellectual discipline, to exercise and strengthen the reasoning powers: Secondly, with a more direct utilitarian object—that the pupils may know the subject and make practical use of it in after-life. We ought to endeavour so to teach the several subjects as to afford proper play to each of those two and keep them in just *balance*. We do wrong if we give either an undue predominance.

**398.** In teaching grammar many fall into the error of dealing with it too exclusively as an abstract subject—a mere intellectual dumb-bell exercise, neglecting its practical applications.

**399.** The practical use of English Grammar is **two-fold**: first, to help the learner **to understand the language** in its highest literary forms; secondly, to enable him to **write English correctly**. It need hardly be said that these two objects are of the highest importance, and that both should be constantly kept in view in the teaching of grammar.

**400.** For these two purposes only a very moderate amount of technical grammar is required. If the

pupils are taught to parse in the simple manner described in Paragraph 426 below, it will be quite sufficient. Farther on in this Chapter suggestions are given how to carry out these two practical applications of grammar.

397. What are the two objects in view in teaching any branch? How must these two be regulated?

398. Prevailing error in teaching grammar.

399. State the two-fold practical use of teaching English grammar.

400. How much technical grammar is necessary for these two?

## 2. PARTS OF SPEECH.

**401.** Of all the ordinary subjects of the school Programme, grammar is the most difficult to be properly taught. In the others there is generally something to catch the eye; but in grammar it is all pure mental work from the beginning. This is the reason that in this subject the children are so much inclined to guess; they resort to this easy and ready expedient rather than undergo the labour of thinking.

If it be carelessly or unskillfully taught therefore so far from being a useful intellectual exercise, it may be, and often is in fact **productive of more injury than benefit.** The habit of guessing is easily acquired and difficult to eradicate; and if it be allowed in one subject, it will be imported more or less into all the others.

**402.** The first instruction in grammar must be entirely oral, no text-books being used. The subject must be introduced very gradually; and it requires at the commencement much patience and judgment. Begin with the noun. "A noun is the name of a person, place, or thing:"—this definition is sufficient, and is quite intelligible. Explain that a noun is not the thing itself, but only its name: a desk is not a noun; but the word "desk" is a noun. When the little pupils have themselves given several examples, they may be put to search for nouns in their lesson, or in a passage written on the black board, or in one of the advanced First Book tablets, which is hung before the class. This is an exercise keenly relished by children; and it

is not particularly difficult, except in case of abstract nouns. Time and practice only will enable the children to distinguish these; indeed when they are beginning the subject, it will be as well to pass over abstract nouns altogether. It will be better not to attempt any other part of speech till the children are thoroughly familiar with nouns. Indeed the same observation holds all through: let them be well grounded in one part of speech before they go to the next. If the foundation is well laid there will be comparatively little trouble afterwards.

**403.** The adjective comes next. The things signified by nouns are of various kinds:—a fire may be bright, large, small, or smoky; a wall may be high, white, or straight. These words, bright, large, high, &c., that show what kind the things are, are adjectives. Get the children to instance a number of adjectives in connection with nouns: a green field, a new book, a fierce dog, &c. Here, as all through in grammar, the teacher should seldom tell the children anything: nearly all should be drawn from them by questions. All this, it will be seen, is **inductive teaching.** (See Paragraph 147.)

Here it will be better once for all to make the children know by heart the simplest technical definition:—"An adjective is a word that qualifies a noun," which will answer very well for the junior classes. Take particular care that they know perfectly the meaning of "qualify;" "qualifying a noun means showing what kind the thing is that the noun stands for."

The children are now exercised as before in searching through a passage for nouns and adjectives conjointly. Only the plainest examples should be selected; and the pupils should be called on for the reason of almost every answer.

The article may come in either now or immediately after the noun. As there are only three little words, which are very easily taught, I do not think it necessary to give any suggestions regarding them.

**404.** "A verb is a word which denotes an action;" this is the only definition of a verb that little children who are beginning to learn grammar can be made to understand. After giving several examples, the teacher will get the children to enumerate various actions. What does a bird do? Flies—sings—swims. What part of speech is bird? Why? What part of speech is flies? Why? (Because it denotes an action). What do you do in the playground? Run—jump—play. What part of speech is jump?

So far the teaching is not difficult either for teacher or children, provided the nouns, adjectives, and verbs that are selected are of a very obvious kind: and this should be the case for a considerable time in the beginning. For example, such words as "dost," "several," "fulness," should be avoided or passed over till the little pupils have become familiar with very plain cases.

**405.** In the initiatory stages of grammatical instruction, the lessons should be carried on in a great measure with **black board and slates**. The teacher writes on the black board, before the class, two or three simple sentences, such as, "The tall boy wrote a bad copy with black ink." "The little dog laughed to see the sport, and the dish ran after the spoon."

In parsing these, the teacher will pass over those parts of speech that have not yet been taught. Question the children carefully on the individual words, and allow them moderate time to think. If the questioning be skilfully conducted, so as to draw out by gentle stages the full meaning of the passage, and the exact functions of each word, there will be little disposition to guess. But as a further precaution against guessing, each child should be allowed only one answer, whether right or wrong; and the children should be generally required to give the reasons of their answers. What kind of a boy was this? (A tall boy.) What part of speech is tall? Why? (Because it shows what kind the boy was).

**406.** After having gone over the sentences somewhat in this manner, and made sure that each individual child can name the parts of speech correctly, let the teacher cease his oral instruction, and direct the children to parse the same words on their slates ; and while they are working, the teacher or a monitor is inspecting them and making whatever remarks and corrections he thinks necessary. The children must of course be shown the proper arrangement for slate or paper parsing—the words to be parsed being written vertically along the left-hand margin.

**407.** This is perhaps as suitable a place as any other to explain that the same word may be a noun or a verb or an adjective according to the manner of using it. For instance, in "I can copy a song," the word copy is a verb ; while in "Your copy is good to-day," it is a noun. "Gold," is usually a noun ; but it is an adjective in the expression "a gold ring." This important point should be well illustrated by examples in the first instance, and should be often referred to afterwards.

**408.** Up to this, only the noun, article, adjective, and verb have been taught. The other parts of speech must be introduced one by one ; and each will be parsed in conjunction with those already known, after the manner pointed out above. In teaching pronouns the pupils should be required in every case **to point out the nouns that the pronoun stands for.**

**409.** The slate and paper grammar exercises may be varied by the introduction of parsing in columns, after the manner recommended in Sullivan's Grammar.\* Each child rules his slate in vertical columns ; at the head of the first he writes the word "Noun ;" at the head of the next "Verb ;" and so on, to as many parts of speech as have been taught. They then go through the assigned sentence : such as, "See where stands the cottage of the labourer, covered with warm thatch."

\* The teacher will do well to read over carefully the whole article on the method of teaching this subject in Sullivan's Grammar, which is full of sound sense.

They write "see" in the verb column; "where" in the adverb column, and so on, till they have disposed of every word in the sentence. As long however as the pupils are weak, they should be got to parse the sentence orally from the black board, before being put to parse it in writing.

**410.** When the pupils are beginning to be proficient in pointing out the parts of speech, they may be frequently exercised in parsing from one of the advanced first class tablets which is hung up before the class. They may either parse the words as they occur, or they may be put to search through the lesson for nouns, adjectives, &c. This is almost as useful as the black board exercise; and it will be an agreeable variety, besides being less troublesome. They may also be got to parse from their open books; but at such an early stage, this is not so good a plan for general use as either of the two former.

**411.** During the oral parsing lessons, keep continually asking the children for the **definitions** of the several parts of speech; and after each definition, be sure to ask the answerer to give an example—the best kind of example being a simple sentence framed or quoted by the child, containing the part of speech under consideration, which he points out. Thus "Give an example of an adjective": to which the children answer (inventing the example himself), "My jacket is blue," and points out the adjective.

The parsing spoken of up to this is "simple parsing," that is, merely naming the parts of speech.

401. Why is grammar the most difficult subject to be taught? Why are children so much inclined to guess in grammar? What is the result if grammar be unskillfully taught?

402. How is grammar begun? By what exercise would you make the pupils know the noun? How long do they continue at one part of speech before going to another?

403. How would you teach the adjective? Best definition for children? How would you exercise them in noun and adjective combined?

404. Best definition of a verb for beginners? Show how you begin to teach the verb. Examples of verbs to be avoided.

405. Which would you use in the beginning—books, black board, or slates? Show how black board is used. Rate of questioning. Why this rate? How prevent guessing?

406. What use would you make of slate work after the oral lesson in parts of speech?
407. How manage those words that are different parts of speech in different situations?
408. Show how you introduce other parts of speech. Precaution in teaching pronouns?
409. Show how parsing in columns is carried on.
410. What use would you make of First Book tablets at this stage?
411. During the oral parsing lesson what practice is necessary as to definitions? How would you make children illustrate?

### 3. PARTS OF SPEECH AND INFLECTIONS.

**412.** As long as the pupils are learning simple parsing text-books need not be used. The pupils of the fourth class—who are required to know, along with the parts of speech, the gender, number, and cases of nouns and pronouns, the comparison of adjectives, and the moods, tenses, &c., of verbs—may be provided with text-books; and they will commit to memory certain portions of etymology as a part of their home lessons: the orthography and syntax of the text-book may at the present stage be omitted altogether. The portions to be committed should be selected with care, and only from the large type. The lessons should be short; and everything should be passed over which the teacher may think unnecessary or hard to understand.

The use of the text-book in fourth class is partly to assist the pupils in giving correct definitions, partly as a preparation for a higher class:—for the amount of grammatical knowledge required in this class the teacher must depend chiefly on oral teaching.

**413.** For fifth class pupils the text-book course will be considerably more extended; but the teacher must avoid the common error of forcing the children to commit to memory too many rules, notes, lists, and distinctions. Let them get those portions only that are often applied. It will be better for the teacher to determine, once for all, what parts of the text-book are to be committed to memory by the fourth class, what parts by the fifth, and what by the sixth, marking them in a book kept by himself; and afterwards to take this as his guide in setting forth the home lessons. If

necessary, explain to the class each day in school the home lesson for the next day, so as to make sure that the pupils thoroughly understand it; and when under their home lesson examination, oblige them to repeat the text plainly, deliberately, and with perfect correctness.

**414.** To teach young pupils of any class, whether third, fourth, or fifth, to refer any word to its proper part of speech, is a much longer and harder task than an inexperienced teacher would imagine; and every legitimate expedient must be resorted to in order to accomplish it. There are certain grammatical groups which consist of only a few words, and which are always given in lists in the Grammars. The children should **get these lists by heart.** The principal are, articles, auxiliary verbs, and the various kinds of pronouns and adjective pronouns; to which some would add prepositions and conjunctions.

These they will of course get off as home lessons; but they should be continually exercised in repeating them at the regular grammar lessons. In nearly all cases when one occurs, the pupils should be asked to repeat the whole list. For instance, the pupil meets the word "every," and says, "a distributive pronoun;" when the teacher steps in with, "Name the distributive adjective pronouns."

**415.** It is to be observed that as regards most of these parts of speech, when the parser meets with one of them, he recognises it, not so much from its grammatical force in the sentence, or from the definition, as simply because it is one of a well-known list of words; and this is quite legitimate. The more perfectly therefore the pupils get off those lists, the more readily will they recognise the individual words. In the advanced classes however the pupils must be made to understand thoroughly why it is called a distributive adjective pronoun, i.e., why the word "adjective" is applied to the adjective pronouns, and why four of them are called "distributive;" and not only to understand it, but **to**

**able also to explain it intelligently themselves.** And so of other parts of speech of a similar kind. In these explanations the text-book definitions will of course be used.

**416.** Teach the inflections **inductively** (pages 88, 89), i.e., draw from the children by particular examples how the inflections are formed, and then state the general rule. Thus we say *one gate*: if there were a number of them, such as three, we should say three —? So also *one cow*: three —? Teacher then tells the children—if there be only one gate we call the noun singular—*gate*: if more than one, plural—*gates*. How did we make the plural from the singular? By adding *s*. The teacher then tells them it is so with most nouns. How is the plural of nouns formed? By adding *s*. Then call for many examples. And lastly direct their attention to **irregular nouns**—*goose*, *man*, *child*.

**417.** When the inflections have been explained the pupils get them off as home lessons; but they must get continual practice in repeating them at the grammar lessons. The pupil suppose meets with the word *lion*; the teacher asks him to decline it; and the learner goes on:—"Nominative *lion*, possessive *lion's*," &c. Take great care that they know the position of the apostrophe, both in the singular and in the plural. After a child has given the three cases of *lion*, let him frame three short sentences containing them:—The *lion* roared; that is a *lion's* mane; the *men* chased the *lion*. And let them illustrate the variations of other parts of speech similarly. *This is a most valuable exercise*, and will well repay the expenditure of time.

It should be an easy matter to teach the declensions, when it is considered that all nouns are declined alike; and that of the pronouns, there are only five personal and two relative to be declined. Yet you will often meet with fourth and fifth class pupils unable to decline "I;" and it is astonishing how many fail to decline the relatives "who" and "which"—especially the

latter. All this feebleness arises from want of practice.

**418.** Make the pupils give the “**principal parts**” of almost every verb they meet with; that is, the present tense, the past tense, and the perfect participle. They must be made familiar with the ordinary conjugation by constant practice; but it will be better not to ask them to go through more than one tense at a time, viz., whatever tense, whether simple or compound, they happen to meet with. For instance, a pupil in parsing meets with “knew,” and when asked to conjugate it he goes on, “I knew, thou knewest,” &c., through the three forms singular and the three plural; or he comes to the compound verb “should wish,” and conjugates it by the teacher’s directions, “I should wish, thou shouldst wish,” &c.

**419.** Although the fourth class children are not required to know syntax, yet it will be better to make them acquainted with the government of nouns and pronouns by transitive verbs and by prepositions; and the fifth class pupils should of course be thoroughly well grounded in this part of syntax.

412. At what stage are the children to use text-books? What portions do they commit to memory? The two-fold use of text-book in fourth class?

413. What special error as to committing text to memory is to be avoided in fifth class? What portions should they get off? How do you treat the grammar home-lesson for next day?

414. How are those grammatical groups which consist of only a few words to be treated? Mention the principal groups. How are these confirmed on the children’s memory?

415. How does the pupil recognise a word belonging to one of these groups? What else should be required of the advanced classes?

416. Best way to teach inflections? Give an illustration of teaching inflections inductively?

417. How is pupil’s knowledge of the inflections to be kept up? Give example. Illustrate the deficiencies of pupils in these: give test words.

418. How do you treat the “principal parts” of verbs? How much ordinary conjugation should a child be asked to go through at a time?

419. How far should fourth class know syntax? Fifth class?

#### 4. PARSING.

**420.** A knowledge of English Grammar, that is, such a knowledge as the senior classes of national

schools are expected to acquire, includes among other things the ability to name the parts of speech in any passage, to distinguish and name the various etymological accidents, and to point out the syntactical relations of the words. This is chiefly accomplished in schools by the practice of parsing, upon which I wish to make some observations.

**421.** In Sullivan's Grammar parsing is distinguished into simple parsing, etymological parsing, and syntactical parsing. Simple parsing consists in merely naming the parts of speech; etymological parsing, in naming the parts of speech and giving their etymological accidents; and syntactical parsing, in naming the parts of speech, giving their etymological accidents, and pointing out the syntactical relations of the words. The following is a specimen of syntactical or complete parsing as generally practised in schools:—

The,	The definite article particularising the noun 'man.'
Man,	A noun, common, third person, singular number, masculine gender, nominative case to the verb 'did.'
Who,	A relative pronoun, having for its antecedent 'man,' third person, singular number, nominative case to the verb 'approached.'
Now,	An adverb of time referring to the verb 'approached.'
Approached,	A verb, regular, intransitive, indicative mood, imperfect tense, third person, singular number, agreeing with its nominative case 'who.'
Holding,	The imperfect participle of the transitive verb 'to hold,' referring to 'man.'
A,	The indefinite article pointing out 'book.'
Large,	An adjective, positive degree, referring to the noun 'book.'
Book,	A noun, common, third person, singular number, objective case, governed by the transitive participle 'holding.'
In,	A preposition governing 'hand.'
His,	A possessive adjective pronoun, referring to 'hand.'

Hand,	A noun, common, third person, singular number, objective case, governed by the preposition 'in.'
Did,	A verb, irregular, transitive, indicative mood, imperfect tense, third person, singular number, agreeing with its nominative case 'man.'
What,	A compound relative, equivalent to 'the thing which ;' the antecedent part, objective case, governed by the verb 'did,' the relative part, objective case, governed by the verb 'required.'
I,	A personal pronoun, first person, singular number, nominative case to the verb 'required.'
Required,	A verb, regular, transitive, indicative mood, imperfect tense, first person, singular number, agreeing with its nominative 'I.'

**422.** It appears to me very objectionable that the pupils should be obliged to go through the whole of this cumbersome process at *all* their oral parsing exercises. The practice is attended with great loss of time, and harasses both pupils and teacher, especially the former, with a needless amount of trouble and perplexity, for which there is no adequate return.

What makes matters worse, the pupils are often put parsing in this way before they are well grounded in simple parsing ; the effect of which is, that after the teacher has been at infinite pains to make them perfect in recognising the numerous inflections and syntactical relations, they often remind him of the weakness of his foundations by missing the simple parts of speech. If the teacher wishes his pupils to be able to parse syntactically, let them therefore be well grounded in simple parsing in the first instance ; in other words, let them be taught to recognise the parts of speech without hesitation. If this be not done, failure in syntactical parsing is certain. The way to do so is shown in Paragraph 425.

**423.** Syntactical parsing when skilfully taught is a good mental exercise, and of course it gives the children some knowledge of the structure of the language.

But it is of little practical use : it gives the children no aid in understanding English in its more difficult forms, and it does not help them to write the language correctly.

**424.** This is the precise point in the teaching of grammar where many teachers err. They spend nearly the whole time in teaching syntactical parsing, and take no steps to turn the grammatical knowledge of the children to practical account.

**425.** The course I recommend the teacher to adopt is this :—1. At all parsing lessons of whatever kind, let the passage be explained in the first instance in the manner described in Par. 427. 2. At some of the parsing exercises for the senior classes—say every alternate lesson—let simple parsing be combined with what is added on in syntactical parsing, and let the etymological accidents be omitted altogether ; that is to say, let the pupil, as he comes to each word, do nothing more than name the part of speech, and point out the other word in the sentence with which the word he is parsing is syntactically connected. Moreover, the syntactical part should be despatched in very brief terms. 3. At the other parsing lessons let the pupils go through the whole routine of syntactical parsing, as exemplified at Par. 421. 4. **Have written parsing exercises,** both in school and as home lessons, in which the pupils are to parse every word with entire fulness.

In order to be understood quite clearly, I here give a specimen of this short way of parsing :—

The,	(Pass over the articles altogether).
Man,	A noun, nominative to 'did.'
Who,	A relative pronoun, standing for man, nominative to 'approached.'
Now,	An adverb, referring to 'approached.'
Approached,	A verb, its nominative 'who.'
Holding,	An imperfect participle, referring to 'man.'
Large,	An adjective, referring to 'book.'
Book,	A noun, objective, governed by 'holding.'
In,	A preposition.
His,	A possessive pronoun, referring to 'hand.'

Hand,	A noun, objective, governed by 'in.'
Did.	A verb, having for nominative 'man.'
What,	A compound relative.
I,	A personal pronoun, nominative to 'required.'
Required,	A verb, agreeing with 'I.'

By adopting this simple and expeditious plan of parsing, a large quantity of prose or poetry will be got through—a thing very desirable—and simple parsing will be thoroughly mastered, leaving still sufficient time to attend to other important matters which I shall refer to presently.

**426.** It is of course necessary that the pupils be able to recognise with the utmost facility all the etymological variations of the several words. This will be best secured by **frequent questioning** on the part of the teacher, in conjunction with the written exercises and parsing lessons above spoken of.

For instance, when a pupil has parsed his sentence after the manner just shown, the teacher may question all round on any of the words he wishes to select:—What number is 'man'? What case? Decline it. What is the antecedent of 'who'? Decline 'who.' Of what number and person is it? Quote the rule of syntax. What is a relative pronoun? Why is it called relative? Is 'did' transitive or intransitive? How do you know? Where is the object? What is the number and person of 'did'? Quote the rule of syntax. What is 'what' equivalent to here? What is the case of the antecedent part? Of the relative part?

It will not be necessary that every sentence parsed should be questioned on in this way; but the thing should be often done; and the pupils should be required to give definitions, rules, and authorities, in the words of the text-book. In this manner the whole of etymology and syntax will be questioned on, from time to time; and the pupils' knowledge of them will be maintained in a most effectual way, because each rule and definition is actually applied to a case in point.

**427.** At the grammar lessons for the senior classes, the passage selected for parsing should be one presenting some degree of difficulty; the Reading Books afford ample materials of this kind. The very first thing to be done—whether the parsing is to be simple, as described in Par. 425, or syntactical as shown in Par. 421—is to have the general meaning of the whole passage explained, which is very often a far harder task than the mere parsing: without this there can be no correct parsing of any kind. Sometimes the words will have to be transposed, or a few words may have to be inserted; sometimes the meanings of individual words have to be brought out; and not unfrequently, where the words are quite simple and the order natural, still the meaning is obscure, and will require elucidation. All this should be done as far as possible **by the pupils**, led on by the teacher's questions. In these explanations the technical terms of grammar may be employed, so far as they are found useful, and so far as the children understand them.

It will be observed that these explanations resemble those given in connection with the reading lessons, differing from them however in being more technical. The two sorts of explanation in fact in a considerable degree approach and assist each other:—

**428.** Take the following three passages as specimens:—

“ Fair as the glittering waters,  
Thy emerald banks that lave,  
To me thy graceful daughters;  
Thy generous sons as brave.”

“ Heaven from all creatures hides the book of fate,  
All but the page prescribed, their present state;  
From brutes what men, from men what spirits know.  
Or who could suffer being here below ? ”

“ Can storied urn or animated bust  
Back to its mansion call the fleeting breath?  
Can honour's voice provoke the silent dust?  
Or flattery soothe the dull cold ear of death? ”

In the first of these, little more is wanting than the arrangement of the words in their natural order, which will make the whole thing perfectly plain:—“To me thy graceful daughters are (as) fair as the glittering waters that lave thy emerald banks: thy generous sons (are) as brave (as thy daughters are fair).” An injudicious teacher will cut the matter short by doing this himself; but the teacher that knows his business will lead the pupils to do it, helping them gently where they fail.

In the second passage, the individual words are all very simple; but how few pupils there are who, coming on it for the first time, can dig out the full sense without the teacher’s aid.

The third is a good example of a passage whose grammatical structure is very obvious, but whose meaning will be obscure to most pupils. The teacher will have to explain several individual words (‘urn,’ ‘storied urn,’ ‘bust,’ ‘animated bust’), and after this the drift and force of the whole stanza.

**429.** The grammatical structure in this last passage is as I have said quite plain; so that a pupil may parse it all through very satisfactorily, and yet may have only a very shadowy perception of what it is all about. It is hardly necessary to say that such a practice as this is very mischievous. It trains the pupils to the habit of reading over contentedly, and examining with apparent minuteness, what in reality they do not understand at all; of substituting mere technicality for sense.

**430.** It will be seen that the plan of parsing here sketched out, tends directly towards one of the two objects we ought to have in view in teaching grammar:—to teach the pupils to understand the higher forms of the language.

**431.** When a passage has been parsed orally, it will be found a very useful exercise to make the children parse the same passage afterwards as a written exercise, either at one of the school desk-lessons, or as a home lesson for next day. Let the teacher be assured that

there is no method more effectual for teaching the pupils to parse accurately than that here recommended —getting them **first to parse passages orally**, till they know them quite well, and immediately or soon afterwards, **putting them to parse the same passages in writing.**

**432.** There are certain difficult forms of expression often met with, which most pupils fail to parse unless they are thoroughly familiar with them. To this class belong many interrogative sentences, and also many phrases in which a relative pronoun occurs, especially the compound relative 'what.' I strongly advise the teacher **to make a collection of such forms, and hang them up**, written out in a bold hand on a card, and to keep his advanced pupils familiar with them by having them parsed occasionally. There are plenty such to be found in the Reading Books. They might be written on the black board occasionally and parsed in view of the whole class.

I give here a few examples, which the teacher can add to at pleasure :—

“ All seems infected that the infected spy,  
As all seems yellow to the jaundiced eye.”

“ Friend of my life which did not you prolong,  
The world had wanted many an idle song.”

“ Some islands which our ships have visited produce no iron.”

“ Read this book that I make you a present of.”

“ Who dainties love shall beggars prove.”

“ None can the fate of Providence foresee,  
Or what his own catastrophe may be.”

“ Whatever you do, do quickly.”

“ What I am most particular about is the style.”

“ What remains is quite sufficient.”

“ Get what you can and what you get hold.”

“ Whatever brawls disturb the street,  
There should be peace at home.”

"One truth is clear, whatever is, is right."

"Buy not what thou hast no need of."

"What time the pea puts on the bloom,  
Thou fiest the voca vale."

"What if the foot, ordained the dust to tread,  
Or hand, to toil, aspired to be the head?"

"Let us now speak of Addison, whom I consider the most graceful writer in the language."

"Let us now speak of Addison, who, I consider, is the most graceful writer in the language."

"They intended that hill to be their resting-place."

"I always believed him to be, what I now know for a certainty that he is, a good man."

"Oh! it is pleasant with a heart at ease,  
To make the shifting clouds be what you please."

"There be some sports are painful, and their labour delight in them sets off."

"In lonely dale, fast by a river's side,  
With woody hill o'er hill encompassed round,  
A most enchanting wizard did abide,  
Than whom a fiend more fell is nowhere found."

This is the proper place to remark that much of the success in the teaching of formal Grammar depends on the text-book adopted in the school. The teacher will find Edwardes' Grammar very simple and clear: the text contains everything needed, and is not encumbered with unnecessary matter; and the type is well arranged, so as to aid the teacher in assigning home lessons.

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420. Give a broad view of the knowledge of grammar required of senior pupils?

421. What are the three kinds of parsing? Define each.

422. What is the evil of keeping pupils continually at syntactical parsing? Effect of a neglect of simple parsing? What is the necessary preliminary to the successful teaching of syntactical parsing?

423. State the use of syntactical parsing? How does it fall short in practical use?

424. Show the error of some teachers in connection with syntactical parsing.

425. Give fully under four heads the arrangement recommended for the parsing lessons. Show how to combine simple with syntactical parsing. Give a specimen. Advantage of this?

426. Best way to confirm children in a knowledge of etymological variations? Give a specimen of the sort of questioning to be carried on. How often should this be done?

427. What sort of passage should be selected for senior parsing? What is first to be done? By what means is the sense to be brought out? By whom is it to be brought out? How far are the technical terms of grammar to be used in these explanations? In what respect does this grammatical explanation differ from that at reading lesson?

428. What are the three specimen passages given in text? Give a specimen of a passage where the words are simple and the sense obscure. Give another, easy to be parsed but hard to understand.

429. Show the evil of the habit of parsing without understanding the sense.

430. Show that the simple parsing here recommended tends to a practical object.

431. Show how a passage parsed orally is to be made use of as a written exercise. Use of this?

432. How do you treat difficult types of expression? Write out from memory as many as you can of the difficult sentences given in text. How keep these before the children?

## 5. ENGLISH COMPOSITION.

**433.** The process of teaching children to write the English language may be roughly divided into **four successive stages**:-

1. Penmanship.
2. Copying or transcription.
3. Dictation and writing pieces from memory.
4. Original composition with the necessary amount of grammar.

The first three, together with technical grammar have been treated of; it now remains to deal with composition, **the highest and most important of all.**

One chief aim in teaching grammar should be to help the pupils to express their thoughts correctly in English, which is to be attained only by giving them sufficient practice in composition exercises.

**434.** Many teachers have an exaggerated idea of the difficulty of teaching English composition. In the highest sense of the term indeed composition is truly difficult, and can only be mastered by a mature intellect, and after long practice. But this view of the subject is altogether left out of the question here. The

ability to write a common letter or a short simple essay on some familiar subject, in plain language, with correct spelling, fairly punctuated, and free from at least obvious grammatical errors, this is all that can in general be attempted or expected in ordinary national or intermediate schools. This amount of proficiency is of the highest importance; and it requires only moderate attention and practice to impart it to the advanced pupils of any primary school.

**435.** Children should be accustomed very often to express their thoughts on paper. A considerable part of the home lessons might be examined in writing, in which case slates may be generally used. But besides this, the pupils, as recommended at the end of Chapter IX., Part II., should be subjected at stated times to written examinations on some part of their programme—it may be arithmetic, geography, grammar, reading lesson, or any other subject the teacher may wish to select.

In these formal examinations all the pupils should use paper. From the lower classes the teacher cannot expect much accuracy or neatness; but even though they make only very rude attempts, they will gradually acquire facility and confidence in expressing in writing what they have to say, and this is the very point that it is important to attain. The pupils of the fourth and fifth classes should, in a reasonable degree, and as far as their knowledge goes, be made to attend to the arrangement, the spelling, the capital letters, and at least the commas and full stops.

**436.** Regular exercises in composition might begin with the pupils of fourth class, and may be carried on once a week at the time for dictation. The exercises may be of various kinds: one of the best is writing short letters. The very first thing to be done is to teach the children the form in which a letter is to be written, that is, how it is to be begun and ended. They will have to be instructed on the simplest details. Show them, in the first place, where to put the resi-

dence of the writer, and the date of the letter. Teach them, next, the way to begin, according to the degree of acquaintance or other circumstances; in other words, whether the person written to is addressed "Sir," "Dear Sir," "My Dear Sir," "Dear Tom," "Rev. Sir," &c.

In the same way they must be shown the proper form of ending; that is, under what circumstances, respectively, they are to write the different terminations, "I am, Sir, Your obedient servant," "Yours very truly," "I remain, Dear Tom, yours very faithfully," &c. It will be necessary to show them where to place the "Sir," or "Dear Sir," and the exact place for the name of the writer, and for that of the person to whom the letter is written.

**437.** When these mechanical details have been mastered, the next thing is the letter itself. The teacher must propose some very short and simple subject, some homely familiar little matter, that can be despatched in a sentence or two. For example, let them write to the teacher to ask the loan of some book, to explain the cause of absence from school, to request half a holiday, &c.—or to a grocer requesting him to give "bearer" certain specified articles—or to a companion, giving him an account of a change of residence, and inviting him to come on a visit, &c. All these, it may be remarked, should be written on paper; the leaf of a copy-book may be used, folded to represent a sheet of notepaper. But the advanced classes should occasionally use real notepaper and envelopes, and then they should observe all the formalities of letter writing, including of course the folding and the superscription on the envelope.

When they are able to write little letters such as I have described, they might be given exercises somewhat longer and more difficult. Let them for example write out from memory, in their own words, the substance of one of the lessons, or some short lively story, read once or twice for them. Or let them give an

account of any occurrence—a fire, a hunt, a runaway horse, a journey, an excursion, &c. Or what is more interesting still, let them write descriptions of noteworthy things in their own neighbourhood, such as ruins, old forts, residences, legends, lakes, hills, battle sites, and so forth.

**438.** They should not be required to write essays on abstract subjects, such as Temperance, Bravery, Avarice. This is one of the most difficult of all kind of exercises in composition, and there are thousands of people who can express themselves in writing with sufficient fulness and correctness on all necessary occasions, but who would find the greatest difficulty in putting together even a few sentences on such subjects as these.

**439.** In all these exercises, the chief difficulty with beginners is not so much to get them to write correctly as to induce them to write at all. They write a word or two, erase and hesitate; *they are too particular*, imagining that an exercise in composition must be something very elaborate and perfect, and if left to themselves, many will not be able to get through a single sentence during the whole time. Let them be encouraged therefore to write very fully, to write without hesitation the first words they happen to think of, to write anything at all provided they fill up the page.

In the beginning they will often write sad stuff; but nevertheless let them not be criticised for some time, till they get a little confidence and freedom. When the teacher finds that they are beginning to attain these, then let him gradually enter on the work of correction. Above all, let the learners not be turned into ridicule, or laughed at, or abused, if they write nonsense: this is the sure way to destroy all progress.

**440.** The teacher must discourage all attempts at big words or high-flown language. The plainest and simplest language—provided it does not descend to

meanness or vulgarity—is always the best, and the pupils should therefore be encouraged to employ the simple words and phrases in common use, which are always clearly understood.

**441.** Punctuation is best learned by ear, after some experience and attention; and one of the means of teaching it is to make the pupils punctuate with scrupulous correctness all their copying exercises. They should also place the stops to the best of their ability, when writing passages from memory, the teacher correcting them where they are obviously in error. But remark, it is only the palpable errors that should be noticed: if a pupil make a fair attempt it will be better not to make corrections; for here, as in many other cases, over nicety often does more harm than good.

The teacher must content himself in the commencement, and for a considerable time after, with the period, comma, and note of interrogation. When he finds the pupils able to manage these he might introduce the semicolon: the colon need not be taught till the pupils are well advanced.

**442.** It will be found a great help to composition to exercise the children in making connected statements orally. Thus at the end of some lesson you call on a child to give verbally in a connected form the substance of the lesson. Or having secured attention you tell a short anecdote, and then select two or three of the children in succession to tell it in their own words. After this they may be sent to the desks to write it, or it might be made a home exercise.

When this exercise is first introduced the children will be shy, and it will be necessary to help them; but they will rapidly gain confidence and facility, and will soon need no help. This is a most valuable exercise in language.

**443.** When a subject is proposed for a composition exercise, the teacher will find this a good plan. Let the pupils in the first instance, write it during the time

for dictation, and let the teacher, walking among them, make any observations, corrections, or additions, he thinks necessary. Let them be required to bring the same exercise written on paper next day, as one of their home lessons; they will of course be expected to attend to all the remarks and corrections previously made by the teacher. The teacher reads them all next evening after school, and corrects them carefully *in red ink or pencil*. Next day they are returned corrected to the pupils, who take them home, and bring them the day after, correctly and neatly transcribed into books kept for this special purpose.

433. What are the four stages of teaching to write English? Mention one of the two main objects of teaching grammar. How is that object to be attained?

434. What amount of proficiency in composition is to be expected in elementary schools?

435. State the several ways in which children are to be accustomed to write their thoughts?

436. When should regular composition begin? What kind of composition exercise should children begin with? Detail the various directions children must get in letter writing.

437. What kind of subjects should be proposed? Give examples. Mention other exercises in composition.

438. What kind of subjects should not be proposed to children? Why not?

439. What is the chief difficulty with beginners in letter-writing? Causes of their hesitation? How should they be encouraged? When is the work of correction to be begun? Precautions in the beginning?

440. What kind of language should be encouraged? Discouraged?

441. How is punctuation best learned? Stops to be first used?

442. Show how to exercise children in oral composition. What stops are to be used in the beginning?

443. When a subject is proposed for an exercise in composition, what is the best plan?

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## CHAPTER VII.

### GEOGRAPHY.

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#### 1. FIRST NOTIONS OF GEOGRAPHY: FIRST MAP.

444. In geography, as in other subjects, the children should proceed from **the known to the unknown**: in other words, they should begin at the

**home** which they all know well, and proceed to districts and countries gradually more and more distant.

**445.** Begin by directing attention to the features of the district round the school—the hill, the stream, the lake, the valley, the plain. Make the children perfectly acquainted with the four cardinal points, beginning with the south where the sun is at 12 o'clock in the day; and make them tell the directions of several important features:—that hill lies to the south of the school, this grove to the north, such a man's farm lies west, &c. In all this the children will take a lively interest, as they are well acquainted with every feature mentioned.

**446.** The children must then be made to understand what a map is. For this purpose the best plan is to use **a rough map of the townland** or the immediate locality in which the school is situated, which any teacher can make for himself. It may be drawn temporarily on the black board for the lesson in hand; but it is far better to draw it once for all on a sheet of moderate size, which is to be hung up permanently in the schoolroom.

All the main features of the neighbourhood should of course be put in:—the streams, ponds, hills, and rocks; the roads, farms, boundaries, villages, principal buildings, ruins, forts, &c. It should be furnished with a scale of yards, perches, or miles (see Par. 466); and like any ordinary map, the top should correspond with the north.

The little pupils may be exercised in this home-made map for some time in the beginning, pointing out and naming the sever<sup>l</sup> features, to the originals of which their attention has already been directed, and with all of which they are well acquainted. This first geographical exercise will be quite an amusement to them.

**447.** The transition from a map of the neighbourhood to the ordinary school maps is perfectly easy and natural. The first few lessons will be occupied in explaining to the children, in very simple language, the

general construction of a map; and for this purpose it will be better to take a map of their own country. Make them draw the pointer round the coast, following all the large windings and excluding the outlying islands: all outside is sea; all inside, land. Remind them that the upper part is the north, the lower part the south, &c.

Tell them the length and breadth of the particular country; but for young children (second or third class) there is no use in giving further statistics, for they will not understand them. Suppose the map is Ireland. It is 300 miles long and 170 broad (show with the pointer how the length and breadth are measured). Give an idea of these numbers, which by themselves the children cannot form any distinct idea of, by building on what they know and are accustomed to:—It would take a person about three weeks to walk from one end of Ireland to the other, if he walked 15 miles a day.

Show now on the map several rivers; make the children understand very clearly **in what direction each flows**; that that direction is down-hill; that each grows larger as it flows along (why?); point out the mouth—the source; and make one or more of the pupils draw the pointer from source to mouth. For the present they need not be taught the names of any individual rivers, except one or two principal ones, or any that they may be acquainted with: to children who live on the Bann, the Bann may be pointed out. So of the other features.

Show them a few ranges of mountains; remark that most of the rivers flow from mountains—why? Lakes are next introduced; draw the pointer slowly round one or two of them—all inside is water—all outside, land. Next show the islands round the coast; and lastly, the boundaries of a few of the subdivisions.

The preceding sketch will occupy several lessons; and all through, the pointer should be **in the hands of the children** oftener than in that of the teacher. For example, after the teacher has pointed out one or

two rivers, the children should be made to point out the rest—to show the direction, mouth, and source of each, and some of the smaller rivers flowing into it.

**444.** How should children be made to proceed in the beginning, when learning geography and other subjects?

**445.** How is geography to begin? Describe the first teaching on the geography of their own neighbourhood. How are the children to be exercised?

**446.** What is the best plan of making young children understand what a map is? Describe how to construct a map of your own neighbourhood.

**447.** What are the first explanations when children are introduced to the school maps? What should the pupil be made to do? How do you deal with length and breadth of countries? How are the children to be made understand the marks for rivers? How do you teach mountain ranges? Lakes? Islands? Who generally holds the pointer? Why?

## 2. THE WORLD.

**448.** When the children have gone over, and have been made to understand all the preceding, they may be introduced to the map of the world. The first thing to be done is to give them some general notions of the shape and size of the world we live on; and for this, as well as for other purposes, every teacher should have in his school a globe of some kind—the small hinged pair of semi-globes being quite as useful as any other.

**449.** Show the little pupils in a general way the distribution of land and water; that the water covers about three times as much as the land. Make them clearly understand that the two parts of the map of the world are pictures of the two sides of the world, showing them at the same time the two sides of the globe corresponding to the two map hemispheres. Remind them that the map is flat, while the world is round. In a general way make them know what parts of the world are hot, what parts are cold, and what parts are neither very hot nor very cold—*temperate*.

**450.** Point out now on the map, and name, the five great masses of land, or continents, drawing the pointer completely round each; make the children do the same; and let them do it also on the globe. The oceans in like manner are to be pointed out and named;

and the pupils should not be taken farther till they are perfectly familiar with the five continents and five oceans.

Exercise them for a short time in showing some of the leading natural features (not naming them yet however but merely pointing them out):—mountain ranges, rivers (the pointer to be drawn in every case from source to mouth), lakes, islands, &c., all over the map.

**451.** After this the details of the map of the world must be gradually filled in, so far as it is considered necessary for the class. It will be better to begin with the chief countries of the several continents. Accustom the children all through to the consideration of the cardinal points:—At what side of Asia is China? On which end of America is Patagonia? What countries lie along the south of Europe? &c. Such questions as these they should be accustomed to answer in the absence of the map, as well as when looking on it.

**452.** The teacher may make these lessons **attractive and even amusing** to the children, by introducing a few interesting particulars regarding some of the countries or their productions. Lapland—dreadfully cold country—little men and women—night two or three months long—five or six families live together in one warm snug house all the time, and never stir out—day three months long—little people in *sledges* (explain)—reindeer—plenty of snow and ice, &c. China—great numbers of people (Chinese)—very clever at many kinds of handicraft—tea—(describe tea plant and show how tea is got). West Indian Islands—Jamaica—sugar—great storms. United States—many people in Ireland have friends there—tobacco—cotton. Nigritia—hot weather—swamps—great long grass—large trees—people black as ink, thick lips, woolly hair, very small flat noses, some are cannibals (explain),—lions, tigers, monkeys, gorillas, &c.

**453.** At about this stage the principal geographical terms must be explained:—continent, island, peninsula,

isthmus, cape, promontory, ocean, sea, gulf, strait, lake: but they must be introduced very gradually. If the school be near the sea, or near a considerable lake or river, most of these terms can be illustrated very plainly, by reference to local features that the pupils are well acquainted with. During all this, the teacher will of course be constantly pointing out on the map, and making the children point out, examples of the various terms.

**454.** "The outlines and leading features of the map of the world," which the Programme requires the third class children to know, may be said to consist of the following :—

1. The continents and the oceans with their boundaries. A knowledge of the boundaries means this :—The children must be able to answer, both when looking on the map, *and when not looking on it*, such questions as these :—What lies on the north side of Asia? On the west of Europe? To the west of the Atlantic Ocean? What bounds Africa on the north? The Pacific Ocean on the east? On which side of the Pacific does Asia lie? &c.

2. The chief countries belonging to each continent (without descending to much minuteness, which the map of the world will not bear); and in a general way, the part of the continent that each lies in—north, south, east, west, or middle.

3. The great leading rivers of the continents; the very important mountain ranges; a few of the large lakes; the well-marked capes (three or four in each continent); the large peninsulas; and about half a dozen remarkable isthmuses.

4. The very large islands, and the most important island groups, of the world.

5. A few of the great cities in each continent.

6. The chief seas of the world: and a few of the gulfs, bays, and straits, belonging to each continent.

**455.** When teaching in accordance with this plan, always **take the different parts connectedly**, i.e., take all the rivers of a continent together; all the islands at one time, &c. More than this, the rivers should always be named and pointed out in the same order (the order laid down in the text book); and so of the other features. When the teacher is merely examining however he may, if the occasion require it, question promiscuously all over the map; and the children should be not unfrequently subjected to this kind of cross-questioning, partly because it is a useful practice in itself, and partly to prepare for the Result Examination.

448. What is the first teaching on the map of the world?
449. Give details—land, water, two hemispheres, flatness, hot, cold, &c.
450. How deal with the continents, mountain ranges, rivers, lakes, islands, &c.?
451. When the details of the map of the world are introduced, what do you begin with? Give specimens of the kinds of questions, especially as regards cardinal points.
452. Show how geography lessons may be made attractive. Detail several examples.
453. At what stage are the definitions of geographical features introduced? How illustrate by familiar examples?
454. Write out a sketch of the outlines and leading features of the map of the world under *six* heads.
455. When teaching these leading features, how are the different parts to be taken—connectedly or mixed up? Explain by examples. When may the features be mixed up?

### 3. GEOGRAPHY OF THE COUNTY.

**456.** We have supposed that the third class children began with the geography of their home, and that when they had become well acquainted with its real physical features, and with the map representing it, they were introduced to the map of the world.

When they get promoted to fourth class the Programme requires that they be prepared for examination at the end of the next year in the map of the world, and with that of either Ireland or the county in which the school is situated. There ought to be no question

as to the choice between the two latter. Following up the principle of proceeding from the known to the unknown, **they should be taught the local county geography.**

**457.** Every facility is offered for giving the pupils a knowledge of the county. The Board have placed in the list, and sell to the schools for 1½d. each, maps of the several counties. These maps are very clear and contain all the features of any importance—mountains, hills, rivers, lakes, towns, and villages, all the main roads and the larger demesnes and residences. The several baronies are also marked and coloured.

With each map there is a short description of the county, which notices everything of importance, and ends with a brief sketch of the ancient divisions and the chief antiquities.

**458.** Besides this, the Ordnance maps of the several counties are on the list, and sold to the schools, mounted on rollers, for 1s. each. These are beautiful and very minute maps, but they are too finely executed for general teaching purposes. What I advise the teacher to do is to draw a *facsimile* of the Ordnance map, putting in only the principal features, and marking them very boldly, so that they may be clearly visible to a whole class. The baronies may be marked in from the smaller map. Along with this, each fourth class pupil should have a copy of the three-halfpenny map, with letter-press description, which will enable him to prepare his lessons at home.

**459** When the children are put to learn their own county, geography is **brought, as it were, to their own doors.** They know, more or less, or have heard in conversation of, a great many of the places and features on the map, and they read the description in their map-book and take part in the lessons with great interest. The teacher will find this part of the Programme comparatively easy to prepare, for the good reason that the subject strongly enlists the sympathy and interest of the children themselves.

456. Which is better to teach—Ireland or the county—to fourth class?  
Why?
457. Mention the facilities offered for teaching county?
458. Can the Ordnance county map be used in class teaching? Why not? How may the teacher procure map for class purposes? What should each child have in order to learn county?
459. Why is the county so easily taught?

#### 4. THE CONTINENTS AND SMALLER DIVISIONS.

**460.** With respect to the order in which the different parts of the geography of a country are taught, the safest as well as the most convenient guide to follow is the text book. And the order of the book should likewise be followed in working out each group. It is a bad plan to call forward one child to point out "The Shannon," the next to show "The Barrow," the next "The Blackwater," &c.; each child should go through the whole series before giving the pointer to another; and the teacher must not rest satisfied until each can, without assistance, name them all in the proper order, and point them out as he names them. The mountains, the lakes, the seas, the bays, &c., should be treated in the same manner as the rivers, the teacher taking care never to mingle them promiscuously.

The teacher must not rest satisfied till the pupils know the general view of each continent and country required by the Programme for the class. For instance, in the map of Asia, each pupil must be able to repeat in the text-book order, all the rivers of Asia without looking on the map; and must also, while naming them before the map, be able to point them out as he goes along. And so of other features and other maps.

**461.** All this close teaching must be relieved by frequent notices of the most interesting peculiarities of the several countries and features—something that will both interest and instruct the children—the manners and customs of the people, the remarkable productions, animal, vegetable, and mineral; the striking natural features, such as volcanoes, deserts, waterfalls, great

mountains, the mountains, marshes, or lakes in which rivers rise, the direction in which they run, the countries through which they flow, the important towns built on them, the distance to which they are navigable, the scenery along their banks, &c.—somewhat after the manner pointed out at Par. 452, making due allowance for the greater intelligence of the higher class children. To teach children merely to point out places on the map is of itself a very uninteresting, profitless affair: it is geography only in name—the dry bones and nothing more. But if each feature is **connected with some useful or interesting fact**, after the manner pointed out above, life is infused into the teaching, and the lessons leave something behind worth remembering.

**462.** It would appear scarcely necessary to remind the teacher that the pupils should know **the geography of their own country** better than that of any other country whatever. It is strange to find a class of children acquainted with the minute features of the map of Asia or of Africa, and yet ignorant of the course of the Shannon or the Thames.

**463.** The etymology of proper names forms an interesting branch of geography, and especially of the geography of the British Islands. In England there are Celtic, Roman, Anglo-Saxon, Danish, and Norman-French names; in Ireland, the names are nearly all Celtic, and generally speaking those that are not are comparatively modern. To trace the names of the principal places to their origin is always attractive to children, and is at the same time an entertaining and instructive exercise. This is a portion of the geography of the British Islands therefore that the teacher should by no means neglect \*

\* This subject, so far as Ireland is concerned, is fully treated of in the author's two volumes on "The Origin and History of Irish Names of Places": see also the smaller work, "Irish Local Names Explained".

460. When teaching the map of an individual country, in what order should the several parts be taken? What should the pupils know of each country and continent—for instance, Asia?

461. How should the teaching be relieved? Illustrate by rivers. What is the value of merely pointing out places on the map? How is this to be varied?

462. What particular country should the pupils know best?

463. From what languages are English local names derived? Irish?

### 5. GENERAL OBSERVATIONS ON MAP TEACHING.

**464.** Though the pupils should generally receive their geography lessons with a map before them, yet they should be very often examined **without looking on the map**; that is, they should be asked to give the positions or directions of the leading features from memory. Without this, they will be very apt to break down at the Results Examination; for however familiar they may be with the details of the map while it lies before them, they will not be able to answer in its absence with any degree of facility or correctness, unless they are often exercised in this way:—

In what direction does the river Thames flow? Source? Mouth? Name a few of the large towns, beginning at the mouth. What country lies west of the Gulf of Venice? What seas, bays, &c., will a ship pass through, sailing round Africa, beginning and ending her voyage at the Suez Canal? Name the maritime counties of Ireland, beginning with Donegal. What group of islands lies west of Galway town? Name the important rivers with towns at their mouths that you pass in coasting from Fair Head to Carnsore Point.

To enable the teacher to carry on this sort of examination without any trouble, the map may be doubled up in its place and kept so, by a loop of cord fixed in the bottom roller. It is also a very good plan to make the pupils occasionally turn their backs to the map, and while they are in that position, to question them on the portion of the lesson just gone over. The mere knowledge that they are liable to this will make them pay more attention to the lesson.

**465.** As the mountains of a country determine its rivers, both should be as far as possible connected.

**The towns and other remarkable places on the principal rivers,** especially those of the British Islands and of Europe, form admirable materials for teaching; the pupils should be frequently exercised in sailing or travelling in imagination along the course of each, beginning at the mouth, and naming the towns and places of note they pass, with the remarkable or interesting circumstances connected with each. In the commencement they should always have the aid of the map at this exercise, but the more advanced should ultimately, as I have remarked above, be able to name the principal places, and give their relative positions, without looking on it. The map should be constantly referred to however to correct all mistakes.

**466.** The children should get some notion of the scale of a map, and if there be not a scale on the class-map the teacher should mark one on it. Then they should be exercised in determining the approximate distances between places. This is always an interesting exercise for children, and of course a very useful one.

**467.** While the Board's large maps should be in general use, every school should be furnished with a few of the Interrogatory Maps which are supplied through the Board's List. These are excellent in their way, and should be very frequently used, after the pupils have become moderately familiar with the outlines of the large maps.

The home lessons, if properly managed, will be a most useful auxiliary in teaching geography. The children learn at home to repeat by rote, in the order given in the book, the towns, mountains, lakes, &c.; and the school lesson frequently consists of a repetition of the same portions, with the additional exercise of pointing them out on the map. The teacher's task therefore will be rendered comparatively easy, if the

pupils have, in the first instance, learned to name them without hesitation in their proper order.

It will also greatly tend to facilitate the teaching of this subject, if the teacher make all his pupils, from the fourth class up, provide themselves with **small atlases**, such as that of Philip and Son mentioned at p. 17. The pupils are to use these in preparing their home lessons after the manner pointed out in the next chapter.

**468.** Of all the plans for impressing the shape of a country and the relative position of its different parts on the memory, the most effectual is the practice of **drawing maps.** And this observation applies to teachers as well as to pupils. Our programme does not require map drawing from any class except the sixth; even these are expected to draw only the map of Ireland; but they must be able to do so from memory. I advise the teacher however to accustom his fourth, fifth, and sixth classes to draw maps. As the children's first attempts at this exercise are always excessively slow and awkward, slates may be used for some time in the beginning; and the children copy either altogether from the large map hanging open before them, or each from his own atlas.

**469.** The following will be found a very useful exercise and one that always interests the pupils. Tell them that they are to bring a blank map of some particular country next day—say Ireland. Give them also a list of chief towns, and tell them they will have to place them in their proper positions in their blank maps as a “dictation” lesson. In examining this task, the teacher names the towns slowly one by one, and according as they are named, the pupils put them down—a little circle for each. They will of course be expected to practise this at home the previous evening as a preparation for the examination.

**470.** The pupils will gain much from merely copying maps that lie open before them; but the most improving exercise of this description, though at the

same time the most difficult, is **drawing maps from memory**. The pupils may be put to do this occasionally; and of course the teacher will take care that his sixth class pupils be well able to draw Ireland in this manner, to meet the requirement of the Programme.

**471.** In the preceding sketch of the method of teaching geography, there is a good deal of what is merely mechanical; but as I have already observed, this is quite consistent with making the lessons to a reasonable degree interesting. I think it necessary to make this remark, because some educationists write of the teaching of geography as if there were nothing but amusement and delight all through for the children, in the lessons of a judicious teacher. There is no subject indeed that may not be made at intervals more or less interesting to children by a skilful and sympathetic teacher; and geography perhaps presents more opportunities for this than most others. But neither child nor adult can learn any subject whatever—that is, learn it well and thoroughly—without a large amount of mechanical rote work, repetition, and practice, which most learners will be inclined to think rather akin to drudgery than to amusement.

**464.** Should the classes have the map always before them at geography lessons? When not, and why? Write out specimen questions that should be often given to children in the absence of the map.

**465.** What two natural features should be connected in teaching? Why? Show how towns are taught in connection with rivers? When with map, when without?

**466.** How should the scale of a map be turned to use in teaching?

**467.** What maps should be in every school? How do you utilise home lessons as an aid in teaching geography? What maps should each pupil have?

**468.** What classes should practise map drawing? Describe how the children should begin map drawing?

**469.** Describe fully the exercise given in text (the exercise of putting down towns). How are the children to prepare for it?

**470.** What is the most difficult and most useful exercise in map drawing?

**471.** Is geography teaching always amusing? If not, show how and why?

## CHAPTER VIII.

## EXTRA BRANCHES.

## 1. MENSURATION.

**472.** Every boy who is moderately expert at calculation and who has a fair knowledge of the rules of commercial arithmetic, in other words, every boy in the fifth class, ought to learn **a little mensuration.**

An impression pretty generally prevails that mensuration cannot be attempted till after a boy has learned Euclid. But a **popular knowledge** of the subject, such as will be of great use in after-life, may be acquired by a class of boys with little trouble, without ever opening a Euclid. The following instructions will apply however whether mensuration be taught separately or along with Euclid.

**473.** It will of course be necessary to give the pupils clear conceptions of **the terms they will have to use.** This is a very simple matter, if the teacher take the proper method. When divested of all superfluous distinctions, they are few, simple, and easily taught. The following are those that are necessary :— In the mensuration of surfaces : angle, rightangle, acute angle, obtuse angle, perpendicular, parallel straight lines, triangle, right-angled triangle, isosceles triangle, equilateral triangle, quadrilateral, polygon, trapezoid, parallelogram, rectangle, square, diagonal, circle, semi-circle, radius, and diameter. In solids : prism, cube, cylinder, pyramid, cone, and globe or sphere.

But their knowledge must not end in mere words ; they must not only know the terms, but **the things they signify**—they must be able to recognise and draw on their slates, or on the black board, the different

angles and figures. Any teacher will see how easy a task this is, who reflects that their number does not exceed thirty.

**474.** Take care that the pupils understand distinctly the meaning of a square inch, a square perch, a cubic inch, a cubic foot, &c.: terms that from their very simplicity are often neglected, and of which therefore the pupils have only very indistinct notions. Make them know clearly what it is to find the area of a figure,\* and what to find the content of a body.

**475.** With respect to the words inch, foot, yard, &c., when talking of long measure, use the terms inch, foot, simply; in superficial measure always use (and make the pupils also use) square inch, square foot; and in cubic measure, cubic inch, cubic foot. Be careful that the pupils always know when the numbers they are taking down, or finding out, represent long measure, when superficial measure, and when cubic measure. Let them also be perfectly familiar with the fact, that the product of long measure by long measure is superficial measure, that the product of superficial measure by long measure is cubic measure, and that three long measures multiplied together will also give cubic measure.†

**476.** Duodecimal multiplication, although extremely easy, is seldom clearly understood. This cannot excite much surprise, when one reflects that many of the common treatises on mensuration adopt a nomenclature, not only perplexed and confused in the highest degree, but in several respects entirely wrong.

When feet and inches are multiplied by feet and inches, as suppose, 7 ft. 9 in.  $\times$  3 ft. 5 in., the product

\* To find the area of a figure is to find the number of square inches or square feet, &c., contained in it.

† These statements are not indeed scientifically accurate; the inaccuracy however does not affect the work or the results, but lies only in the form of expression, which on the other hand is very convenient and sufficiently correct for all ordinary purposes.

represents superficial measure, and consists of three terms, viz., 26 : 5 : 9. Let the teacher take special care that the pupils be able to read these correctly, and that they understand clearly what they mean; for this is the very point on which mistakes are so frequently made. The first (26) represents square feet, the second (5) twelfths of a square foot, and the third (9) square inches; and the proper way to read the whole is 26 sq. feet, 5 twelfths, and 9 sq. inches. The whole may be expressed in square feet and square inches by reducing the twelfths to square inches, that is 26 sq. feet and 69 sq. inches. The common way of reading these three terms is 25 feet, 5 inches, and 9 parts, the first of which is insufficient, the second wrong, and the third useless.

If three long measures, each consisting of feet and inches, be multiplied together, such as 3 ft. 7 in.  $\times$  4 ft. 2 in.  $\times$  2 ft. 10 in., the product is cubic measure, and consists of four terms, viz., 42 : 3 : 7 : 8. Here the teacher must be still more careful to make the pupils understand these terms. The first (42) is cubic feet, the second (3) twelfths of a cubic foot, the third (7) hundred-and-forty-fourths of a cubic foot, and the fourth (8) cubic inches; and the proper way to read the whole is 42 cubic feet, 3 twelfths, 7 hundred-and-forty-fourths, and 8 cubic inches.\*

**477.** The rules that it is necessary for the pupils to know are only very few. In superficial mensuration they are (1) the rule for finding the area of a parallelogram (which includes and renders unnecessary the special rules for rectangle, square, rhombus, &c.); (2) triangle (they should know both rules); (3) trapezoid; (4) any trapezium; (5) a rectilineal figure of any number of sides; (6) circle; (7) to find the circumference

\* The common way of reading this is 42 feet, 3 inches, 7 parts, and 8 thirds, which is still worse than in superficial measure. What can be more absurd than to call a solid, a foot long, a foot broad, and an inch thick, by the name of *an inch!*

by having the diameter, and the reverse; (8) to find any side of a right-angled triangle by getting the other two. In the mensuration of solids (1) the rule for a prism or cylinder (which includes those for cube, parallelopiped, &c.); (2) a cone or pyramid; (3) a globe; (4) the rule for round or squared timber; and (5) the rules (all very easy) for the surfaces of the most important of the preceding bodies.

**478.** There is yet one other matter to be attended to, without which all the foregoing will be of little use; that is, the pupils must be made to determine for themselves what lines it is necessary to measure in order to find the areas of the different figures, **and actually to measure them.** All boys learning mensuration know the rule for finding the area of a triangle; but let the teacher make a large triangle on the floor with chalk, and place a ruler in any boy's hands, and ask him, without giving him any further data or information, how many sq. feet and sq. inches in it. This appears a very simple matter, yet very probably not one boy in twenty will be found able to do it unassisted. More than this, there are very few boys who can take a ruler in hand, and without help or suggestion, measure correctly the length of a desk: let any teacher who doubts this try it among his advanced boys.

There should be therefore **a ruler** of some kind in the school; and the boys should be accustomed to measure and find the areas of the various surfaces in and about the school, such as those of the school room itself, the maps, black boards, &c. But as these figures are all rectangles, the teacher should make others—triangles, trapezoids, polygons, &c., with chalk on the floor or on the black board. The mere knowledge of the rules of mensuration is useless without this practical ability to measure lines, and to determine those that are to be measured; for this is the very first thing a boy will have to do, whenever he may have occasion to apply his knowledge.

472. When should a boy learn simple mensuration? Mention an erroneous impression prevalent. How far may mensuration be learned without Euclid? Use of so much?

473. Give a full list of the terms the pupil will have to use. How are these to be explained. Are mere definitions enough? What else should the pupils know?

474. What should the pupils be made to know, as to "inch," "square inch," &c.? As to "area" and "solid content?"

475. What should they be made to know about the several kinds of inches, yards, &c.? How should they be made to express themselves so as to be always clear?

476. What should they be taught as to the products of two, or of three, factors of long measure? Describe the prevailing errors in the way of dealing with duodecimal multiplication. Show the correct nomenclature in case of two factors. In case of three factors.

477. Enumerate the eight rules that must be known in superficial mensuration. Enumerate five in solid mensuration.

478. Describe how far the pupils should be exercised in actual measurements. Necessity for this? How is the teacher to provide figures? How are the pupils to get the dimensions of the several figures? Why this?

## 2. EUCLID.

**479.** I have already remarked that in the beginning, the pupil may, and indeed must, learn arithmetic without understanding the reason of *all* the rules. But the case is quite different with Euclid. The learner is not put to this subject until he is in an advanced class: and he must see his way clearly every step, thoroughly understanding all the reasoning as he goes along, and the dependence of each proposition on those that precede.

The use of Euclid, like that of other subjects (Par. 397) is twofold: first, for the direct knowledge it imparts of the properties and measurements of lines and figures; secondly, and even more important, for its admirable intellectual training. But **the learner will miss both** who goes through his course of Euclid, merely getting off the propositions by heart, without understanding the force and application of the **reasoning**. Euclid is a subject that cannot be *crammed*, and if it is not taught intelligently it is not taught at all.

**480.** In beginning Euclid, take great care that the pupil learns off the definitions thoroughly well, *exactly in the words of the book*. He should be made to under-

stand clearly the meaning of each—the black board being constantly used—and should himself make the various figures as correctly as possible, till he is quite familiar with them. One of the most usual causes of failure in Euclid is putting the pupils to the propositions, before they half know the definitions.

Afterwards, when going through the propositions, make the pupils define each term as it occurs in the demonstration, always exactly as it is given in the text-book: and continue this as long as he shows the slightest hesitation or want of acquaintance with the definitions.

The postulates and axioms must be got off in like manner; but they are much easier than the definitions. The axioms of course do not admit of proof: but they should be well explained and illustrated by arithmetical processes and by lines.

**481.** The learner should never be allowed to attempt any proposition unless he is able to repeat the enunciation with perfect ease and correctness. There are two kinds of enunciation, **general and particular:** make him understand the distinction, and let him be able to explain it.

**482.** He should understand clearly the difference between a theorem and a problem. In each problem he should be able to point out **the data** separately. Let him understand and be able to explain that a problem consists of two parts:—first, the construction, i.e., doing the thing required; secondly, the demonstration, i.e., proving that the construction made is the right construction.

At the end of *the construction*, make the assertion formally—"such and such is the thing required"—and then go on with the proof. Thus in the 9th of the First Book, after having made the construction, the pupil says:—"I say this line bisects that angle."

**483.** In a problem, after the thing required is done, i.e., after the construction proper, sometimes a further construction has to be made for the proof. Thus in the

12th of the First Book, the construction proper is made—in other words, the problem is done—by (1) describing a circle; (2) bisecting the chord; and (3) joining the point of bisection with the given point. This is the end of the construction; and immediately after should follow the assertion:—"I say this line is the perpendicular required." After this comes the proof, for which you have to draw two lines from the given point to the two ends of the chord. But the drawing of these two lines is not part of the construction proper at all: they are drawn merely to enable you to prove that the line is perpendicular.

The pupil must understand all this very clearly. Such supplementary or proof constructions occur in the 12th and 42nd of the First Book, and in the 11th and 14th of the Second.

**484.** As the pupil goes through his demonstration, whether in a theorem or a problem, he should always **quote his authorities**—never in any instance being allowed to omit this most necessary part of the proof—and let him show how the proposition quoted applies to the case in point.

**485.** In a theorem always make a clear distinction between the hypothesis and the thing to be proved.

In each theorem as it occurs, cause the pupil, before beginning the proof, to point out the hypothesis, and to tell exactly what it is he is about to prove.

**486.** Let the learner clearly understand the difference between a **direct** and an **indirect** demonstration.

A direct demonstration proves the thing in question, and also shows the reason why it is so.

In an indirect demonstration, all other suppositions are proved false, except the one in question; and as some one of the suppositions must be true, the one in question must be the true one. Moreover, the falsity of the other suppositions is proved by showing that if any one of them were supposed to be true, it would lead to an absurdity. Proving one of them false

proves all false, for the proof of falsity which is pointed at one will equally apply to the others.

An indirect demonstration then proves the thing in question to be true, but shows no reason for it; so that direct demonstration is always better than indirect.

**487.** Make the pupil understand what the **converse** of a theorem is. In Euclid "two theorems X and Y are converse of one another, when the hypothesis (or part of the hypothesis) of X is the thing to be proved in Y; and when the thing to be proved in X is the hypothesis (or part of the hypothesis) of Y." Make the learners know the several pairs of propositions that are converse to one another.

**488.** The pupil will have to practise demonstration in two ways—oral and written. In oral demonstration the figures must not be lettered (except in the case pointed out in Par. 490); and the several points, lines, and angles must be designated by pointing at them directly. In doing this, the learner should avoid the form of expression:—"the line this;" "the angle that," &c.

**489.** In some schools there are large sheets of diagrams containing all the figures of the several books of Euclid; and on these the pupils are allowed to demonstrate their propositions. Sheets of this kind may be exhibited as specimens of good construction; but they should not in general be used in demonstration. The pupil should be obliged **to make his own construction** for each proposition; and should use this, and this alone, in demonstration. In fact the construction of the figure should be regarded—what it really is—as an essential part of the proposition, quite as necessary as the demonstration.

A pupil must study his proposition in the first instance from the figure in the book; but after he has mastered the proposition in this manner, he should construct his own figure and go through the demonstration on it.

If these instructions be not attended to, the result will be, that when he is under examination, though he may know the demonstration very well, and go at the proposition very confidently, he is likely to fail at the last moment because he forgets the exact construction of the figure.

**490.** When teaching Euclid to a class, it is a very useful plan to put a large lettered figure on the black board before the whole class; and while all are looking on let each boy—or as many as the teacher thinks necessary—go through the demonstration, standing at the usual distance from the black board, and naming the letters. This is an excellent plan for keeping up the attention of the class; and it trains the pupils to the correct use of letters.

**491.** In all demonstrations whether oral or written, the pupil should be trained from the very beginning to make his figures **large** and **correct**. The teacher should accomplish this even at the expense of any amount of time and trouble—and it will call for both. In paper demonstration the figures should be two or three inches in size: in slate work much larger; and on the black board they should occupy a space of eight inches or a foot.

Then as to correctness:—lines intended to be perpendicular or parallel should be really so (as far as the eye can judge): a line bisected should have the point in the very middle: and circles, squares, equilateral triangles, &c., should be correctly made. There is no more prevalent fault in teaching Euclid than allowing the learners to make small-sized, incorrect figures: a pupil who habitually makes such figures can have no true conception of geometry at all.

**492.** Do not allow the pupil to make **particular** figures for **general**. For instance, if he has to draw “a triangle” (or “any triangle”) let him not make it equilateral or isosceles: if he has to draw “a quadrilateral,” he should not make it a parallelogram, or a square: if two lines are to be drawn making “an

angle," they should not be drawn at *right* angles : and so on to endless examples. The particular figure indeed is not *wrong* : but if allowed, and especially if habitually allowed, it is sure to lead to misconception.

**493.** In this, as in all other subjects, the pupils must of course be exercised in answering questions in writing. When a boy is writing out a demonstration, he should, besides making a correct, large-sized figure, write (or better *print*) the letters of the figures in very plain capitals, and place them quite close to the several points they represent. The figure **should stand apart**, and the writing should not be allowed to encroach on it. It need not be said that the writing should be legible, but it may be necessary to warn the pupil to make the letters referring to the figure particularly plain, well-shaped, and capitals like those of the figure.

479. In what respect does the teaching of Euclid differ from that of arithmetic? Mention the twofold use of Euclid. How might a pupil misboth? Why cannot Euclid be crammed?

480. What precautions are necessary in case of definitions? Mention a frequent cause of failure in learning Euclid. What should be done according as terms turn up in a demonstration? How do you treat postulates and axioms?

481. If a learner attempt a demonstration without knowing the enunciation perfectly? What should he know as to the two kinds of enunciation?

482. As to the distinction between problems and theorems? State exactly what he should know in case of a problem. After construction what should be done?

483. What should he be made know about supplementary proof constructions? In what problems do these occur? Illustrate.

484. How often should authority be quoted? How should it be applied in each case?

485. What distinction is to be made in a theorem? What should the pupil point out before beginning the proof?

486. Explain the distinction between direct and indirect demonstration?

487. Explain by example the *converse* of a theorem.

488. In what two ways must the pupil practise demonstration? Mention an objectionable form of expression.

489. What is your estimate of permanent sheets of diagrams? What should the pupil be able to do as to construction? Why? What is the result if the pupil does not practise making his constructions?

490. How would you use with a class large-lettered figures on a sheet or black board?

491. In making figures, what precautions as to (1) size, (2) correctness? Size on slate? On black board?

492. What instructions should be given as to making particular figures for general? Give several examples.

493. What rules are to be observed when the learner is writing down a solution or demonstration?

## CHAPTER IX.

## HOME LESSONS : PERIODICAL EXAMINATIONS.

## 1. NECESSITY AND USE OF HOME LESSONS.

**494.** To develop the understanding and to cultivate the memory of the pupils—these, so far as intellectual training is concerned, are two of the principal tasks the teacher has before him. Each demands an equal share of attention ; and the teacher is equally in fault who accustoms his pupils either to understand without remembering, or to remember what they do not understand.

This latter fault was formerly very prevalent ; the practice of committing to memory whole pages of spelling, grammar, geography, history, &c., was carried to a most absurd excess. But perhaps teachers of the present day are prone rather to the other extreme ; we sometimes neglect the cultivation of the memory, in the attempt to impart the whole mass of school knowledge by direct teaching.

**495.** There are some who, with the idea of removing all unpleasant difficulties from the child's path, would altogether discard such an institution as home lessons, or "tasks ;" but this is, to use the mildest phrase, a mistaken kind of benevolence. The path of learning can never be smooth ; it may be pleasant, but it is always more or less difficult and laborious. No one ever yet learned anything worth the name of learning, without **labour and application** ; whoever attempts to convert learning into an amusement—a kind of sugar-plum affair—attempts an impossible task, and does more harm than good.

**496.** The assertion that a child must never get anything by heart is equally erroneous. Committing to memory is necessary not only for children, but for all

people as long as they continue to be students; of this every one has sufficient experience who begins to learn a new science or a new language. There is a vast amount of elementary knowledge that must necessarily be learned by rote, such for example as arithmetical tables, chief towns of countries, grammatical definitions, &c. It is surely a very valuable acquisition for a child to be able to repeat by heart, without hesitation, the tables of avoirdupois weight or long measure, the seas of Europe, the chief towns of all the counties—English, Irish, and Scotch—lists and definitions of the different kinds of pronouns, and a hundred other matters of a similar kind; and what is more delightful for a pupil—for child or adult—than to be able to repeat a number of the best pieces of poetry in the language.

**497.** In every school then the pupils should be required to prepare lessons at home, in the first place to supplement the daily instruction and thereby accelerate their own progress; and in the second place, **to cultivate their memory**, and to train them to intellectual labour. But while the teacher insists that the children commit to memory certain elementary portions of their text-books, peculiarly fitted for such kind of learning, he will be careful not to overwork them with long and difficult tasks; and above all, he will never require them to get off anything by rote that they do not thoroughly understand. Fourth and fifth class children might get as much home work as will take them **an hour** to do; second and third class children something less; and those of sixth class more—perhaps **two hours'** occupation. To get off tasks well requires a considerable amount of training; but when accomplished, it may be regarded as an infallible proof that the teacher has acquired complete influence over his pupils.

**498.** But though the word "Home Lessons" appears on most time-tables, yet in some schools it is the name without the reality; every morning there is a form of examination, but it is a mere fiction. In some cases

the children in fact never look at their lessons at all, or glance at them hastily on the road as they approach the school: and they depend on this, or on some imperfect previous knowledge, or on good luck.

This state of things is attributable partly to the fact that the teachers do not attach sufficient importance to the home lessons, and are consequently indifferent about the manner in which the pupils prepare them; and partly to the prevalence of a loose, inexact, imperfect method of examination, that allows idle unprepared children to escape with comparative impunity.

494. What are the two principal tasks the teacher has before him in teaching? In relation to these, mention two faulty extremes. Which of these faults prevailed formerly? Which fault prevails now? What faculty suffers by this?

495. Should tasks or home lessons be discarded? Why not? Is it possible to convert learning into an amusement?

496. Show that children and all learners must get things by heart. Examples.

497. With what two objects should the pupils be made to prepare home lessons? What two precautions must the teacher take in regard to the home lessons assigned? What amount of home lesson work might be given to fourth and fifth class children? To sixth class pupils? If the teacher succeed in making his pupils prepare home lessons well, what is the inference?

498. Describe how home lessons are carried on in a school where they are ineffectual. On what do the children depend for their tasks? To what is this unsatisfactory state of things attributable?

## 2. MATERIALS.

**499.** Home Lessons are of two kinds—**oral and written**: I shall first speak of oral home lessons.

The home lessons should begin with the second class children. The lessons for these will be extremely simple, a mere preparation for higher work, but still they should be exacted with some degree of strictness. Tables, spelling, and simple poetic pieces, will form the best materials. Let the children be required to prepare every day **a small portion** of one of the four arithmetical tables; each child should be examined by requiring him to repeat it from beginning to end, without interruption (see Par. 334). For spelling let them come prepared to spell **all** the words in the first two or three

sentences of their reading lessons along with those in the columns at the head.

**500.** The children of the third class should prepare lessons in spelling, in the multiplication table (with pence), and division table, and also in a few of the easy tables of weights and measures.

The pupils of fourth class should have lessons in spelling, tables of weights and measures, grammar, and geography; those of fifth, in spelling, grammar, geography, and (for those who are preparing for examination in second stage) Latin roots (with prefixes); and the sixth class pupils, in addition to the subjects of senior fifth, should have Greek, Anglo-Saxon, and English derivations.

**501.** The most useful parts of the geography for home lessons are **chief towns**. The principal towns of Europe, Asia, Africa, America, and the British Islands, will afford sufficient materials for fourth class. The fifth and sixth class pupils may prepare lessons in a more extended course, but the teacher must take care to confine them to those portions of the book which it is useful to be able to repeat by heart. The best materials are the general views of the continents and of the British Islands, such for instance as "The principal islands of Europe," "The principal seas of Asia," &c.

**502.** The teacher should oblige all his fourth, fifth, and sixth class pupils to provide themselves with atlases; it should now be easy enough to do this, when a very good atlas can be bought for a few pence. They are used in this way with the home lessons. The pupil, when preparing his geography lesson at home, does so with the atlas open before him; and every place, town, lake, &c., mentioned in the portion of text he is committing to memory, he finds out on the map. In this manner, he prepares for the examination of next day, at which he is obliged to repeat the text correctly, and point out each place as he names it. If this plan be well carried out, the teacher will find it a great assist-

ance in giving his pupils a correct and sound knowledge of geography.

**503.** The children of all the classes, from second upwards, inclusive, should occasionally be required to commit to memory poetic pieces from their respective class-books; this need not be every day; once or twice a week will be sufficient. In examining a lesson of this kind, the pupils should be obliged to repeat the piece **deliberately, correctly and tastefully.** (See page 154.)

**504.** It is often very useful in the senior classes to assign certain portions of a text-book, not to be got off by heart word for word, but to be read over carefully, and the substance mastered and remembered. Here the teacher examines by putting a few questions on the leading points, and the pupils answer in their own words, not in the words of the book. This kind of preparation is very suitable for certain portions of the grammar and geography text-books, for the subject matter of the reading lessons, and for extra subjects where text-books are used, such as physical geography, natural philosophy, domestic economy, &c.

**505.** In this matter of home lessons, many teachers commit grave mistakes, through want of either judgment or reflection, by obliging the children to commit to memory indiscriminately almost every part of their text books. This is more especially the case with grammar; in many schools the pupils are made to get even the longest and most minute rules and exceptions. This is a useless task, for no pupil's memory will retain them. Far the greater portion of these books are not intended to be committed to memory at all, but merely to be read carefully by the pupils and explained by the teacher.

**506.** Children should not be allowed to commit to memory anything they do not understand; the teacher therefore should take occasion to explain to the pupils of the different drafts, any of their lessons for next day (especially grammar and poetry) that are in any degree

difficult. As far as practicable too, the home lessons in grammar and geography of each particular day ought to be introduced into the ordinary daily lessons on the same subjects, and fully explained.

**507.** In the matter of oral tasks, I will now recapitulate in the form of five short rules the chief points that have been inculcated:—

(1). Assign no parts of the text-book to be got by heart except those that are valuable to be remembered in the very words of the book and that are certain to be often made use of.

(2). Never give tasks that the children cannot easily get off and that you cannot easily examine in the time available; from which follows the next rule—

(3). Let the tasks be few, short, and perfectly definite.

(4). Never let the pupils get by heart anything they do not understand.

(5). See that the tasks assigned be got off so thoroughly that they can be recalled and repeated without effort.

**508.** Exercises prepared on paper constitute the second kind of home lessons, and they are quite as useful as oral home lessons. There may be paper exercises in connection with almost any of the subjects taught in the school; and in this Second Part, I have already in several places indicated how the pupils may be employed at this sort of work. It will not be necessary to specify these in detail, but there are **four kinds** that deserve particular mention, viz. 1, the transcription on paper of portions of the ordinary reading lessons; 2, the solution of arithmetical questions; 3, grammatical exercises; and 4, writing letters or short essays. For these exercises each of the pupils should be provided with a small copy-book; they should be required to keep them cleanly and neatly and quite clear from scribbling.

**509.** For an exercise of the first kind, they might be required to bring, carefully transcribed, a small portion—suppose the third of a page—of their reading lesson; for one of the second kind, they should bring,

fully worked out, the solution of three or four arithmetical questions, the number, length, and difficulty of which must be regulated of course by the proficiency of the class. The merit of each exercise is to be judged by the excellence of the writing, the correctness of the spelling and punctuation—or of the work if it be arithmetic—and by the general neatness and tasteful arrangement of the whole.

**510.** The following method of managing these lessons will be found to work well; and it can be carried out in any ordinary national school, if the teacher only lay his mind resolutely to the task.

Every pupil in third, fourth, fifth, and sixth classes brings one, and only one, written exercise every day; three days of the week may be given to arithmetic, two to transcription, and one to parsing, by the pupils of third class; those of fourth and higher the same, except that they may bring a letter on one day of the week instead of arithmetic. The copy-books containing the exercises are examined every morning by the teacher, assisted if necessary by monitors, and the result is marked on each exercise, signed by the examiner's initials.

**511.** For an arithmetical exercise they may get from three to six sums, according to the proficiency of the class. Every incorrectly worked sum is marked with the word "Wrong," or if all are not brought, the number omitted is noted thus:—"Two omitted." In either case the pupil is obliged to bring next day, *in addition to his proper exercise*, the sum or sums omitted, or wrong, or both.

**512.** If the exercises be transcription, they are read through, and every misspelled word is underlined; but they are not corrected, for this is the pupil's business. Next day the pupil must bring (along with his usual day's exercise) all his misspelled words *written out correctly six or eight times*.

These arrangements will be found to answer extremely well. The rule about bringing the errors corrected

next day will make the pupils cautious and careful to have their work correct; and in the transcription exercises especially it works with great advantage. The certainty of having to write out a list of errors a number of times will secure a high degree of correctness, which is the very thing wanted; for though it is good to have errors effectively corrected, it is **still better to have no error at all.**

This close examination of the home written exercises will require time; but the time bestowed on it will be well repaid.

**513.** The pupils might have two, but not more, oral lessons, with one written exercise, every day. It may be a matter of opinion whether one moderately long oral lesson, with one written exercise, would not be enough: it certainly would be very convenient both as regards announcement and examination, and I am inclined to think it the best arrangement. Each subject will have to get its turn in order that the whole ground may be covered in the week.

499. What are the two kinds of home lessons? When should the children begin home lessons? Describe the home lessons to be prepared by second class.

500. Describe in like manner those of third, fourth, fifth, and sixth.

501. What are the most useful parts of geography for home lessons?

502. To make the geography home lesson effectual, what should the pupils be provided with?

503. How far, and with what classes, should poetry be used as a material for home lessons? How often?

504. Describe other oral tasks besides these to be got word for word. In what subjects are these useful? How are they examined?

505. Mention a prevailing error in regard to (1) quantity (2) matter, of home lessons.

506. What should be done beforehand if next day's home lessons be hard to understand?

507. What are the five rules to be observed in assigning oral tasks to pupils?

508. What is your estimate of the use of home lessons on paper? In what subjects may paper home exercises be given? Mention the four principal kinds.

509. Describe fully the transcription home exercise. How is the merit of it to be judged?

510. Describe the best method of managing written home lessons. How, and when, are the copy-books examined?

511. Describe the arithmetical home exercises. How are they to be marked in case of error or omission? What should the pupil be made to do in case of error?

512 How are the errors in the transcription exercise to be marked? What must the pupil be made to do with them? What is the effect of the rule about bringing the errors corrected next day? No errors—errors carefully corrected—errors uncorrected—which is best, and which is worst?

513. How many oral home lessons should be given each day? Advantage of one oral and one written home lesson each day? How then do you cover all the subjects?

### 3. ANNOUNCEMENT; REPETITION; MODE OF EXAMINATION.

**514.** The whole of the pupils of one draft should prepare the same lessons. They should not have the same lesson on two successive days. If a child be absent for one or more days, *he should come prepared in the home lessons, both oral and written, of the next day after his last attendance.*

**515.** The best and surest method of announcement is to write the whole week's lessons for each draft on a sheet of paper, which is to be hung up if possible in a frame, opposite the circle occupied by the draft; thus, there will be as many lesson tablets as there are drafts with home lessons. Forms for this purpose are easily drawn out and ruled; and they can be multiplied with very little trouble if the teacher has a graph (see footnote, p. 281). The pupils, especially those of the advanced classes, should be expected to examine the tablets and ascertain the lessons for themselves; but to prevent all mistake and take away all excuse, those of each draft should be reminded in the evening, of the lessons for next day.

Friday or Monday should be **set apart for repetition**; there should be no special oral lesson for that day, but the pupils should come prepared for examination in all the oral lessons of the preceding four days.

**516.** The method of examination is very important. Some teachers examine a whole draft simultaneously, by questioning the pupils in succession—a single question to each—as in ordinary teaching. This is not a good plan, for several reasons, among which may be mentioned the facility it affords for the escape of those who are unprepared. The proper and obvious way is

to examine one child wholly in one lesson before you leave him ; this enables you at once to ascertain what he knows about it, and the number he deserves can be marked down immediately before the next pupil is examined. In the examination of home lessons there should be no passing of questions from one to another as in class teaching.

**517.** Some lessons are best examined by questioning, as derivations, capitals of countries, &c. ; but there is a very numerous class, such as poetry, lists, &c., the pupil's knowledge of which should be tested by simply causing him to repeat them from beginning to end. The teacher's judgment must determine which method is best in each case : it often requires a mixture of both. Some lessons again are most conveniently examined in writing : for example, spelling, in which the teacher dictates from the lesson a dozen of the hardest words, to be written down.

514. Should all those in a draft have the same or different home lessons ?  
If a child is absent one day, what is done ?

515. Describe the best method of announcement. Best repetition day ?

516. Describe best mode of examination. Mention some faulty ways of examining home lessons.

517. Mention two particular ways of examining, and the subjects to which each is applicable. What lessons are best examined in writing ?

#### 4. PERIODICAL WRITTEN EXAMINATIONS.

**518.** This is a convenient place to speak of the periodical examination of the school.

The Yearly Results Examinations of the Intermediate schools and the greater part of those of the advanced classes in National schools, are carried on in writing. The teacher therefore will have to prepare his pupils specially for this test ; if he does not do so, a great part of his laborious teaching will go for nothing, and the sure result will be partial or total failure.

**Answering questions in writing is an art** which requires to be learned and practised like

each individual part of the programme. A child may have mastered the whole of the subject required, and may yet fail at the final written examination, from want of practice, want of confidence, the dread and timidity inspired by pen, ink, and paper, in those who are not accustomed to write much, or want of neatness and proper arrangement, and many other causes. A boy whose head is full of knowledge, but who is not drilled in answering questions in writing, is like David in Saul's armour—he has all things necessary without being able to use them.

**519.** Let it not be said that this is cramming : it is **excellent teaching**—a most valuable and most necessary intellectual discipline. What is more useful than training young people to write down what they have to say on any subject whatsoever, neatly and in correct language ? It teaches method, promptitude, and self-reliance ; and it trains to the habit of concentrated attention. Periodical written examinations of the senior classes should have always formed a prominent feature in schools: now, thanks to the Results System, teachers must of necessity adopt it, in both National and Intermediate schools. And there is another consideration :—subjecting the several classes occasionally to rigid examinations in the various subjects of the Programme is a most valuable means of **laying bare the weak points** of the school, and thereby putting the teacher on his guard.

**520.** The pupils should be examined in writing in each individual subject, **at least once a month**. Whether they are to answer in only one subject, or in two or more, at one sitting, is a matter for the choice of the teacher. But occasionally they should get papers of questions on several subjects, one after another without stopping (except a short recess if necessary) in order to accustom them to the final examination. In all cases they should be obliged to attend to the following instructions.

**521.** No carelessness or hasty work is to be per-

mitted: every paper should be written with the same care and with the same formality as if it were written for the yearly Results Examination.

If a margin is not already marked off, crease a margin an inch and a half broad to the left of the paper: on this margin the numbers of the questions are to be written, with the answers opposite each.

The name of the pupil is to be written, **first of all**, on the top of each page—or the number only without the name, if this be the regulation. Let this be done invariably—never omitted—so that it may become a habit.

**522.** In these examinations, it will be far the better plan to put a paper of questions into the hands of each pupil; though this is of course troublesome, as all have to be printed or copied.\* But the questions might be written out on a blackboard, which is to be hung opposite the whole class. The pupils should never be asked to write down the questions from dictation; for this will weary them, and leave them little spirit to answer afterwards.

**523.** The most common cause of the errors and blunders committed at examinations is **over haste**, both in perusing the questions and in working, which is not necessary, as there is generally time enough allowed.

The pupil should read each question **coolly and carefully** before he begins to answer it; from want of caution in this respect, a candidate often answers, not the question before him but a different question altogether, and of course gets a cipher for his answer.

**524.** In working through a paper of arithmetical questions, the pupil should invariably **take the easiest questions first**, leaving the longest or most difficult for the last. If he take the hardest or longest first he is in danger of getting puzzled over

\* This may be done without much trouble if the teacher provide himself with a graph, which it is not hard to make. For the method of making a graph, see "Handicraft for Handy People," p. 233.

it, and then he loses heart, gets frightened and nervous, and goes wrong even in the easiest sums.

**525.** See that the pupils avoid overcrowding; that their writing be open and plain; and that they leave a good space between each answer and the next. Encourage them to use plenty of paper; and to call for more when they want it.

If a pupil make a blunder, he must not be frightened; let him draw the pen across anything wrong, or anything that does not please him, and re-write it.

Before giving up his paper he should look carefully over all his work, to supply omissions and correct errors.

**526.** The monitors should be subjected to a **written examination** once a fortnight or so. In these preparatory examinations the monitor should be made to comply with all the conditions usually enforced at the yearly examinations; and he should answer on each occasion as carefully as if his salary depended on the result.

**527.** The teacher should read over the answers in presence of the pupils, and point out the errors, faults, and imperfections. If this be omitted, the examination will be of little use. And each pupil should be obliged to re-write all his erroneous answers, with the necessary corrections.

If a pupil or a monitor be trained in the manner here pointed out, he will know how to go about answering systematically at the yearly examination; and whatever he knows about a question he will put down on paper. He will not be frightened at the sight of a paper of questions; he will be cool through custom; and he will not fill his paper with blots, errors, and blunders, through mere nervousness.

**518.** Why must the pupils be practised in writing answers? Point out the result if they are not practised.

**519.** Show that exercising children in written examinations is not cramming. Point out its several advantages.

**520.** How often should the pupils be examined in writing in each subject?

**521.** Describe in detail the several rules to be observed at written examinations, as to margin, place for writing numbers of questions, pupils' names, paging, reading the questions.

522. How are the pupils to be supplied with questions ?  
523. What is the most usual cause of blundering at written examinations ? How is this to be remedied ?  
524. In what order should pupils take arithmetical questions ? What is the danger of taking the hardest or longest first ?  
525. What instructions should the pupils get as to the arrangement of their answers, overcrowding, writing, space between answers, blunders, final revision ? What is the last thing a pupil should do before giving up his paper ?  
526. How often should monitors be examined ? What should they be made do at these examinations ?  
527. To what use should the pupils' written answers be turned ? In case of erroneous answers, what should the pupils be obliged to do ? Describe in detail the effect of training pupils to answer in writing ?
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## CHAPTER X.

### KINDERGARTEN.

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#### 1. OBJECTS AND METHODS.

**528.** The term Kindergarten is applied to a system of infant training developed and made known to the educational world in the early part of this century by Frederick Froebel, a native of Oberweisbach in Germany.

**529.** Froebel loved to compare children to plants or flowers ; and as a plot in which flowers are reared, watered, and tended, is called a *flower garden* ; so he called his first infants school at Blankenburg by the fanciful name of **Kindergarten**, that is, *child-garden*, a garden or nursery that has *children for plants*—in which little children are trained and all their faculties developed. (German—*kinder*, children, and *garten*, a garden). This name is now given to Froebel's system, as well as to the infants schools carried on in accordance with it.

**530.** It took Froebel long to work out in his own mind the Kindergarten system. For years he kept a close watch on the proceedings of very young children when left to themselves. He observed, what indeed we all observe at one time or another, that they love to build houses and furnish them with bits of bright

coloured china and glass. They make pies, animals, and all sorts of shapes, of mud or clay, and if they chance to get a scissors they look out for paper and cut it into fantastic patterns. They sing, dance, and march like soldiers; and so on with a hundred other improvised amusements.

**531.** Froebel also noticed and made use of what are called the destructive and mischievous propensities:—the child tires of its plaything and attempts to destroy it—he is charmed with the beauty and softness of a rose, but when the novelty has passed he pulls it to pieces.

**532.** Happily the thought struck Froebel, and gradually grew upon him, to introduce these infantile occupations and amusements into the school-room. He so arranged matters that the work of the little children in a Kindergarten school is really play; but it is play skilfully systematised, turned into an educational channel. The materials for play-work are placed in their hands, and they are taught to build up forms of real life, symmetry, and beauty, quite as delightful to them as their own rude creations, and of course infinitely more valuable in an educational point of view.

**533.** It is impossible to employ very little children the whole day at pure head work—reading, spelling, arithmetic, &c.—and if it were possible it would be cruel and mischievous. The time not occupied in these intellectual exercises or in the playground is devoted to mechanical work of some kind, calling for more or less dexterity of hand, and attended with very little mental strain. I shall now try to give the reader some broad general notions of the nature of these occupations.

528. By whom and when was Kindergarten introduced?

529. Why is the system called *Kindergarten*?

530. What measures did Froebel take to develop in his mind the Kindergarten system? Describe the proceedings of little children when left to themselves?

531. Describe what are called the destructive propensities of children.

532. To what use did Froebel turn the infantile occupations and amusements of little children? Show how far these occupations are better in school than when they are outdoor and spontaneous?

533. Why should infants be put to manual occupations as well as to the common school branches?

## 2. GIFTS AND OCCUPATIONS.

**534.** In accordance with the practice of Froebel, the materials first placed in the hands of the children to work on are called—not toys or playthings—but **gifts**.

These gifts, after long study, he arranged in regular order, beginning at things extremely simple, and going on gradually to those more and more complex, so that there might be work suitable to infants of every age and degree of proficiency.

**535.** The first gift is intended to teach colour, form of the simplest kind, and motion, to the very youngest children—little things of three or four years of age. It consists of sets of six light soft balls covered with bright coloured worsted—three of them red, yellow, and blue, the primary colours; the other three green, orange, and violet, the secondary colours. The children are put to play with the balls; they first take them up, and each has to tell the colour of his own. Then they exchange balls, or perhaps roll or throw them to one another, and again they are asked about the colours. At another time the balls are placed on the floor and the children are told—"You take a red ball"—"You a green ball," &c.

They sometimes get bright-coloured little bits of flannel, each choosing his own colour and they pull them asunder delicately, thread by thread, putting the threads carefully aside. These threads are kept, and are used in making pincushions by children more advanced.

When they are questioned about the colours and other qualities of the balls, they are in all cases made to give their answers **full, and with distinct utterance**. The teacher seldom "tells" them anything: everything is **drawn from them by questioning**. These observations apply to the teaching at all stages of the Kindergarten.

I have described only a few of the games and exer-

cises; but there are very many more in connexion with this first gift.

**536.** By the first gift the little infants' perception of colour is cultivated; and so far as their tender age permits, they learn obedience, precision of movement, distinctness of utterance, accuracy of answering, and the use of their hands.

**537.** The second gift is intended chiefly to develop the perception of **form**; it consists of sets of the three primary forms, a sphere, a cylinder, and a cube. The children are questioned on the points of differences and resemblances; they are made to count the corners, angles, and surfaces; and their attention is directed to the differences between the several surfaces —some flat, one rounded or curved one way, another curved every way.

**538.** The Kindergarten desks come first into use in connexion with the third gift. These are level dual desks, about 3 feet long and 24 inches high. The flat surface is chequered with 1-inch squares marked very distinctly in black. There is also a large black board for collective teaching chequered in squares like the desks.

As a preparation for the occupations of the third gift the children are exercised in pointing out on their desks any particular square indicated by the teacher. Standing in front of the children who are all seated, the teacher says, "All point to the square at the left hand top corner" (they all put the fore finger on it.) "Point to the fourth square up from the right hand bottom corner." "Show the square five down and six to the left of right hand top corner," &c. This is of itself an admirable infant exercise, teaching concentrated attention and precision of eye and hand.

**539.** The third gift is a cube, or rather several sets of cubes, each formed of eight others. With this gift, and all the others that follow, the children, while sitting at their desks with the boxes of cubes placed before them, are taught to make with the small cubes forms of

**life, knowledge, and beauty**, as the Kindergarten teachers express it. For instance, with a number of the little cubes, a child builds a cross, a castle, a wall, a bridge, a tower, a train, &c.; these are forms of life, as being representations of real objects. By counting, arranging, separating, and collecting the cubes, they get from them ideas of number, order, addition, subtraction, &c.; these are forms of knowledge, which are all purely mental, though directly derived from real objects; and thus the teaching of mental calculation is begun. They group or build them up so as to make symmetrical figures in great variety, representing no real objects, yet by their regularity of outline adapted to please the eye and minister to a correct artistic taste—these are forms of beauty.

**540.** The little structures are sometimes built up on squares indicated by the teacher in the manner pointed out in Paragraph 538, sometimes on squares chosen by themselves.

At these exercises the children go into the desks, distribute the boxes of cubes, take off the lids, &c. at the signals of the teacher. Moreover, when each object is built there is a **conversation** about it, in which the teacher encourages the little ones to ask all sorts of questions, while the teacher in her turn questions them; and thus their curiosity is excited and their intelligence is drawn forth.

**541.** This third gift gives much more pleasure to the children than the preceding, and they work at it with far greater spirit; for the occupations are almost identical with their spontaneous outdoor plays—building castles in sand, furnishing toy houses, &c. But the forms they build up with the cubes are far more beautiful, and of course far more instructive.

**542.** The fourth, fifth, sixth, seventh, eighth, and ninth gifts consist of blocks; rods or staffs of several lengths; rings; half rings; triangular, square, and rectangular tablets of various bright colours; with which a great variety of forms of life, knowledge, and

beauty are made. Sometimes these forms are imitated from drawings placed before the children, an admirable exercise for training the eye as well as the hand, for the forms are to be made *in solid* from pictures *in flat*. Sometimes they are created by the children themselves, a still more admirable exercise, for here the inventive faculties are developed and cultivated.

**543.** As the children advance they are put to draw with pencils on chequered slates; and when they have made some progress in this, they get chequered copy books on which they draw with coloured pencils, copying figures placed before them, or forming designs out of their own heads. They are aided in drawing the lines, by the squares on the slates and copy books; and they draw a great variety of ornamental forms, many of them very complicated, and all of them beautiful.

**544.** Pieces of chequered cardboard are put into their hands, on which they draw out designs and prick them at points all along the lines, and afterwards embroider them in coloured threads of silk or wool—using the holes already made. They make silver canvas-paper ornaments, such as little picture-frames, baskets, slipper-pockets, napkin-rings, &c. They transfer maps to cardboard, and then prick out and outline them in silk. In all these occupations both boys and girls join; and boys as well as girls are taught to thread needles, sew buttons on cloth, mend little holes in pieces of cloth, and turn down hems in paper and tack them with needle and thread—a most useful sort of teaching.

**545.** Another very interesting occupation is paper-weaving. Strips of various coloured paper are woven in and out, something in the manner of darning; and in this way the children form many beautiful patterns which they imitate from coloured drawings lying on the desks before them. They fold paper in various curious ways, forming numerous pretty designs. They are taught to cut papers into patterns:—They first fold up the paper, double, triple, quadruple, &c., according to the designs required; then they make certain cuts

with the scissors; after which they open out the paper. The result is some beautiful symmetrical pattern, something like what one sees in a kaleidoscope. Modelling in clay is another of their occupations, and it is one which they enjoy immensely. They make fruit both separately and in bunches, animals, cubes, cylinders, bags of flour, bottles, &c.

This, as every one can see, is merely systematising what all children do of themselves when they get paper, scissors, pencils, soft clay, &c., into their hands.

**546.** Object lessons constitute a very important part of kindergarten teaching. Indeed it may be said that the ordinary work of the kindergarten, as described here, consists in a great measure of object lessons of the most valuable kind. For while, as in object lessons proper, all the gifts and all the objects the children construct with them are made the subject of conversation and of question and answer, the children themselves handle the things all through, experiment with them, find out their qualities, and build up with them forms of life, knowledge, and beauty.

Kindergarten drill forms another important factor; but I shall not enlarge on it here, as it will be found fully described in Kindergarten and Infants school manuals.

534. What are the materials for kindergarten work called? Describe generally Froebel's arrangement of gifts.

535. Describe the first gift, its use, and the various ways of exercising the children on it. How are they made to answer?

536. What results follow to the children from the first gift?

537. What is the second gift and what is its use. How are the children questioned in the three bodies?

538. Describe kindergarten desks. How are the children questioned on the squares? Use of this?

539. Describe the third gift. What are forms of *life*, forms of *knowledge*, and forms of *beauty*? Give examples of all those built up with the cubes.

540. How far are the children limited as to the *site* of these structures? What takes place when the object is built? Use of this?

541. How do the children take to the third gift? Why?

542. Describe collectively the fourth to the ninth gifts. How do the children know what forms to build up with these gifts? Use of the imitative process—of the inventive process?

543. Describe how the children are put to draw.

544. Describe occupations with cardboard, silver paper, and coloured pencils.

545. Describe how paper weaving is carried on—paper-folding, paper cutting, modelling. Show how these occupations come natural to children.

546. Show that object lessons constitute a chief part of kindergarten.

### 3. SOME PRACTICAL SUGGESTIONS : KINDERGARTEN THE BEGINNING OF TECHNICAL EDUCATION.

**547.** As to the place for teaching kindergarten, it would of course be better to have a separate class-room for it, but in the absence of a class-room it can be carried on in the main schoolroom while the rest of the pupils are at their own proper work. In this respect it stands on exactly the same level as the ordinary school branches ; and there is no reason whatever why kindergarten should not be taught in the principal room, as well as grammar, geography, arithmetic, &c. The only thing required is that there be a sufficient number of kindergarten desks with the other necessary appliances.

This is a very important consideration ; for no doubt the question will arise of extending kindergarten to the ordinary national schools as far up as third class children ; and we know that at present by far the greater number of our national schools have one room and no more.

**548.** In drawing out a time-table for a school in which kindergarten is taught, the following points ought to be kept in view :—One kindergarten lesson per day will be sufficient for the children of first, second, and third classes ; indeed, no more time can be spared for it, as these children have to be kept up on the other subjects of the programme. But "infants" should get two kindergarten lessons per day ; for kindergarten teaching is peculiarly suited for them ; and this time can well be spared, as the Programme requires for infants only one other item—to read and spell the 1st and 2nd Sections of First Book, for which there is a whole year to prepare.

**549.** Where the teaching staff is limited and the attendance small, the children of second and third classes may be seated together at kindergarten under a single teacher ; and at some other time of the day the

infants and the first-class children may in like manner sit together under one teacher—at one of the two infant lessons.

As one of the two objects of kindergarten is to relieve the strain of head-work, a kindergarten lesson should *in all cases come between two of the ordinary literary lessons.*

**550.** In all this kindergarten there is a most valuable technical—and indeed it may be said, artistic—training for the little children. They are constantly exercised in discriminating and combining shades of colour: they are trained to cleanliness and delicacy of touch in handling; their love of the beautiful is developed and cultivated; and their perception of form and their power of imitation—being indeed the faculties chiefly exercised—become wonderfully quick and accurate.

**551.** Outside the moral effects of this training, the most valuable part of the kindergarten is the manual work. It is really the beginning of a technical and industrial education. It is a natural precursor to handicraft, needlework, knitting, cooking, &c.; and when the children come to learn drawing and to handle tools, scissors, or kitchen utensils, they will find small difficulty in managing them, as their little hands have been already trained to accuracy and precision.

**552.** By continuing the kindergarten up to third class we almost link the infant manual work with the cookery, handicraft, and other industrial occupations of the higher classes, so as to make the technical instruction continuous—or nearly so—from infancy onwards to the completion of the school course.

547. Best place for teaching kindergarten? Show that it may be carried on in the principal room. In this respect how far does it resemble the ordinary branches? Why is this consideration important?

548. What time per day should be allowed for kindergarten for the several classes? Why not more than one half hour for first, second, and third classes? Why two half hours for infants?

549. With limited staff what classes may be combined? How should a Kindergarten lesson come in? Why between two literary lessons?

550. State the general useful result of kindergarten teaching.

551. The most valuable part of kindergarten work? Why? How is kindergarten related to handicraft, cooking, &c.?

552. Use of continuing kindergarten to third class?

#### 4. MODIFICATIONS IN FROEBEL'S KINDERGARTEN.

**553.** According to Froebel's plan the child was to learn kindergarten, and nothing else, till he had completed his sixth year. After this he learned the usual elementary literary branches, and worked no longer at kindergarten. We have made **two important modifications** in this system. In the first place we teach the children kindergarten, and also reading, writing, spelling, and arithmetic, all abreast from the beginning; and in the second place, instead of stopping kindergarten at the end of the sixth year of age, we continue it in infant schools, till the children have finished their course in third class.

**554.** There is no doubt that these modifications are great improvements; for kindergarten is, after all, *only a part* of the child's early education, and at the same time it is too important to be allowed to terminate at the end of the child's sixth year.

There is no good reason for postponing the teaching of the ordinary school subjects. When the children are properly taught, and when they are not pressed, they will learn these almost insensibly from the age of three or four up, and will have made considerable progress by the time they have completed their sixth year. Let the teacher bear in mind that kindergarten teaching must not be carried so far—must not occupy so much of the children's time—as to interfere with their progress in reading, writing, spelling, and arithmetic, which are at least equally important, and in which the Programme must be satisfied as well as in kindergarten.

**555.** If there are persons who think it would be more profitable for little children to spend their whole time at the common school branches, they may feel assured that the introduction of kindergarten does not impede progress in these necessary subjects. To keep very young children all day at head-work will, as

already remarked, only stupefy and injure them, and delay their progress onwards. The kindergarten is a recreation and a delightful variety; and the children take such pleasure in their handiwork, that they come from it to their ordinary routine lessons with their minds bright and cheerful, and free from the dulness and weariness produced by over-mental strain.

553. Explain the two modifications we have made in Froebel's system.  
 554. Show how far these modifications are improvements. Show that the teaching of the literary branches should not be postponed! How and why should kindergarten be kept in due subordination?  
 555. Show that the kindergarten does not impede the learning of the literary branches, but the reverse.
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## CHAPTER XI.

### THE HUMAN MIND IN RELATION TO EDUCATION.

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#### THE THREE MAIN FUNCTIONS OF THE MIND.

**556.** The human mind has three main functions or faculties which are well marked off from each other:—the **Intellect**, the **Emotions** or **Feelings**, and the **Will**; which manifest themselves in the processes of *knowing*, *feeling*, and *willing*, respectively.

**557.** While these three main functions are sufficiently distinct, it seldom or never happens that any one of them acts without being accompanied by one or both of the others. Thus, when a boy compares his scholarship this year with what it was last year, this is a process of the *Intellect*; but to do so requires an effort of the *Will*; and if he is either pleased or displeased with his progress, this is *Emotion* or *Feeling*.

These three manifest themselves in various ways which shall now be enumerated and considered.

**558.** The Intellect, the Feelings, and the Will, are more or less **antagonistic to each other**:—in other words, the action of one prevents or interferes in a greater or less degree with the action of the others. Thus a person whose will is strongly bent on any object is less capable of feeling or reasoning for the time; one whose feelings are strongly excited can neither reason correctly nor exert volition strongly; and if a man is earnestly employed in following up a train of thought or reasoning, his power of willing and his capacity for feeling are very feeble or altogether suspended.

**559.** The proper exercise of the young mind—exercise duly proportioned to the age and strength of the child—is **healthful and pleasant**. But the mind, like the body, may be worked too hard—overstrained; and this is productive of certain injury; the tender brain suffers and the general health is deranged. A mind that is not sufficiently exercised is not properly trained, and suffers loss: a mind that is exercised beyond its strength is injured in its development.

**560.** It is also to be observed that the various mental faculties are of **unequal growth**. Some are developed in early childhood and soon attain their greatest strength; while others are of slow growth—are feeble in childhood, and attain their full strength only in mature age. The several faculties ought to be **exercised according to their strength and development**. If heavy work be prematurely thrown on any one faculty—work which it is yet too feeble to accomplish—it will retard the proper growth of that faculty, and will only stupefy and injure the child. On the other hand advantage should be taken of the activity of those faculties that develop early to exercise them reasonably—to place before the child sufficient work of the proper kind—otherwise these faculties may never attain the full strength they are capable of, and there will be loss of valuable time which the child may never recover.

All this matter is a proper subject for the teacher's study; for on his practical knowledge of the human mind depends in a great degree his success as a guide and teacher of children.

556. What are the three chief functions of the human mind? What are the three corresponding mental processes?

557. Show by an example that one of these functions is always accompanied by one or both of the others.

558. Show how far they are antagonistic to each other: give examples.

559. How far is mental exercise healthful for a child? When is it injurious? Evil of each extreme?

560. Comparative rate of growth of the several faculties? How and when should the several faculties be exercised? The two extremes and their danger? Why should the teacher study the human mind?

### I. THE INTELLECT.

**561.** By the intellect **we know:** we employ the intellect when we think, reason, compare, remember, and so forth.

The chief functions of the mind that range themselves under the intellect are, **1, Sensation and perception; 2, Attention; 3, Memory; 4, Imagination; 5, Reasoning and judgment.**

#### 1. SENSATION AND PERCEPTION: THE SENSES.

**562.** We get all our ideas by **sensation** and **reflection.** When I look at a building, or listen to a bird singing, the resulting idea is obtained by sensation. When I look inwards and think of some operation of my mind, such as fearing, believing, &c., the idea is here obtained by reflection.

But sensation is the original source of all, because ideas of reflection come after those of sensation and are founded on them. We could not reflect without having some ideas in the mind to reflect upon in the first instance; and these primary ideas we get from sensation.

**563.** It is commonly understood that we have five

senses. But there is a sixth, a **muscular sense**, as it is called, which plays a very important part. You are made aware of the muscular sensation when you move your foot, when you push anything heavy, or when you support a weight on the palm of your hand while the arm is extended.

**564.** Of the five ordinary senses we get clearer and more definite indications from some than from others. In this respect sight is the most perfect; and in the order of definiteness the senses stand as follows:—  
**sight, hearing, touch, smell, taste.**

**565.** We derive ideas through the senses in the following way. Some external object **stimulates** or makes an impression on the nerve of one of the senses: this is called a **sense-impression**, which is carried to the brain by the nerves—each sense having a special set of nerves of its own. When the mind becomes **conscious** of this, the impression becomes a **sensation**. The moment the sensation is felt, the mind refers it to an outer cause; then the sensation becomes a **perception**. The result of the perception is registered in the mind, and remains there, so that it may be recalled at a future time: this result is an **idea**.

Thus, when a certain flower presents itself before one's eyes, the light-undulations from it strike on the optic nerve at the back of the eye, and make a sense-impression. So far, the effect is merely physical—the mind is not mixed up with it. If the mind comes into play and directs attention on what is going on, it becomes conscious of the impression, and the person experiences a sensation, *i.e.*, he sees. The moment he does so, the mind refers the sensation to its cause, *i.e.*, it recognises that the sensation has been caused by an external object, and it has the perception of the flower, which remains in the mind as an idea.

**566.** Thus, sense impression together with consciousness is sensation: sensation together with recognition of an outer cause is perception: a perception which is registered in the mind is an idea.

**567.** Although the two processes of sensation and reference to an outer cause are so closely connected as to seem one indivisible operation, they are in reality distinct. In early infancy there is no reference to an outer cause after sensation; the recognition of the outer object is an acquisition gained by the gradual united experience of two or more of the senses. Some persons who were born blind have afterwards recovered sight by a surgical operation. Immediately after the operation these persons see as well as other people—that is, their sense of sight acts, but they do not understand the information it gives. For when they look at anything—suppose a dog—it is to them nothing more than a mere picture *in the eye*; they do not perceive that the picture is caused by an outer object, and they do not know that what they see is a dog. So with all they look at. But after some time the other senses—chiefly touch and hearing—help them to find out that the pictures are caused by objects outside and away from the eye; or in other words they come to get ideas into the mind by the sense of sight.

**568.** Of course a large proportion of our perceptions are merely revivals of ideas already in the mind, not the formation of new ones; as when I hear the well-known voice of a friend, which at once calls up the idea of him.

**569.** Observe, though there may be sense impression, unless the mind is conscious of it there is no sensation, and of course no perception, and no idea. For example: suppose that while your mind is wholly engrossed in some matter, you are walking through the fields with the flowers blooming and the birds singing all round you. Here though there are plenty of sense impressions, you are not conscious of them, and consequently there are no sensations; in other words, though your eyes and ears are open, you neither see the flowers nor hear the birds, and no ideas of either enter the mind.

**570.** Some degree of attention is usually required in order that the sense impressions may be followed by

sensation and perception. Some sense impressions indeed are so powerful, that they force consciousness and perception. Thus, when a dog barks near me suddenly and unexpectedly, it will at once force me to attend, so that whether I will or no the idea of a dog presents itself to my mind.

But the greater number of sense impressions require more or less effort of will to direct the attention and to be followed by sensation. Thus, when a teacher is describing any feature of a foreign country to a class, the children have to put forth an effort of will in order to concentrate their attention. Without the effort there is little or no attention or perception, and no distinct ideas remain.

**571.** *The training of the senses.* By far the greater part of the training of the senses goes on **during infancy** without help from anyone. The child, by his own active efforts, learns the qualities of the multitude of things and people that surround him. But once he goes to school this natural process of acquisition is aided by the **systematic training** of the teacher.

**572.** The **kindergarten system** affords perhaps the best of all sense training for very young children; and by it the three superior senses, seeing, hearing, touch, are educated simultaneously and in the most effectual way.

**573.** But this sense training should not stop with young children; it should be continued during the whole school course. It is impossible to separate the *senses* from the *attention* in this process, for while you are training the former, you are of necessity training the latter. In a like way, two or more of the senses are generally mixed up, so that one participates more or less in the training of another.

**574.** Touch is developed by writing, drawing, kindergarten, and handicraft. In all object lessons the children should be allowed to handle and examine the things for themselves. One personal examination by the child is better than any amount of verbal descrip-

tion by the teacher. And if the real objects cannot be had, pictures ought to be made use of.

**575.** Hearing is trained in the process of learning to articulate syllables and words, and in general in learning to read; for in every case the ear has first to distinguish the sounds before the organs of speech come into play. The teaching of singing trains this sense to the perception of pitch, loudness, and time or metre.

**576.** The sight is trained in form by writing and drawing, geometry and mensuration. But in order that these two last should be of any use as form-trainers, the pupils must be taught to make their figures correct, as recommended in Paragraph 491.

The following exercises and all like them are a most valuable training for the eye. Get the pupils to look earnestly for a few minutes at a map—warning them of what will be required of them. Then turn the map and let them draw from memory the outlines of that particular portion of which they have got notice. Put down a large number on the black board, such as 753,070,350,432, or a series of numbers, such as 56, 40, 37, 49, 8, 757; let the children look at the board for a moment, and then let them write down the figures from memory. Of course it will be seen that in these exercises attention and memory partake in the training.

**577.** The indications of the remaining two senses, smell and taste, are so vague that they do not usually come under the hand of the teacher in the way of training.

561. Define and describe the intellect. What are the chief mental functions belonging to the intellect?

562. The two-fold origin of all our ideas? Illustrate each. What is the original source of all? Why?

563. How many ordinary senses? Describe the muscular sense?

564. Arrange the senses in the order of definiteness?

565. Describe the process of receiving ideas through the senses. Explain *sense-impression, sensation, perception, idea*. Illustrate each by example. With which of them does the mind begin to act?

566. Show how all these processes are connected?

567. Show that perception and recognition of an outer object are separate. How is the latter acquired? Illustrate by a sudden recovery of sight.

568. Show by example that some perceptions are revivals of old ideas not the formation of new.

569. Show by example that there may be sense-impression without sensation, perception, or idea.

570. How far is attention necessary to sensation? Show that there may be sensation and perception without attention. Give Example. Example where sense impression requires effort of will to produce sensation.

571. When are the senses mostly trained? When does artificial training come in?

572. Best of all sense training for children? Why?

573. How far should sense training continue? Show how the several senses and attention are connected in training.

574. Show how touch is trained.

575. Show the several ways in which hearing is trained.

576. Show the several ways in which sight is trained.

577. Why do taste and smell not come under the teacher's training.

## 2. ATTENTION.

**578.** Attention is the active direction of the mind to the consideration of something going on either outside us, or within ourselves—in our minds. In the act of attention, the mind concentrates its whole force on one object or idea, or on one combination of objects or ideas, and wholly or partially excludes all others.

**579.** Attention is one of the most important functions of the human mind. By its aid we accomplish all mental work: without it there can be no correct consecutive thinking. Some go so far as to say that the power of concentrated and continuous attention constitutes genius.

**580. Attention impresses the ideas clearly in the mind** and stamps them in the memory; and the stronger the effort—in other words, the more concentrated the attention—the clearer the mental impression, and the more lasting is the hold on the memory.

**581.** Attention is of two kinds:—**voluntary** and **non-voluntary**. When the attention is directed intentionally from within, by the will, it is *voluntary*; when it is directed unintentionally from without, by some attractive influence in the object, it is *non-voluntary* or *automatic*. We have examples of non-voluntary attention every day of our lives. When I am walking I see a horse running away, or on opening a book a beautiful picture catches my eye; in both cases

my attention is turned on the object without any effort of will: this is non-voluntary attention. We exercise voluntary attention perhaps still more frequently; when one examines an article carefully that he is about to buy, or when a child attends to the teacher's explanation.

**582.** It is important to observe that once the attention is directed to an object, it matters little—so far as the results are concerned—whether it be voluntary or non-voluntary: in either case the effect is produced of impressing the idea clearly and of storing it up in the memory.

**583.** The power of directing the attention is rapidly improved by practice (see Paragraph 603), and is of course **susceptible of training**. But a little consideration will show that the teacher must act with great judgment and discrimination in the process of training the attention of children of various ages.

**584.** As voluntary attention requires an effort of will more or less sustained, we cannot expect to find it—except in a very feeble state—in young children: for in them the will is weak and incapable of sustained effort (Paragraph 652). The teacher therefore must not try to force little children to follow him in lengthened explanations: if he expects they will do so, he expects what is impossible. If he is explaining to a class of little ones, and finds that they grow weary and restless, he must not blame or punish them; the best thing he can do is to stop his explanation, and either let them play or set them at some mechanical employment for the time.

**585.** The voluntary attention of young children may be claimed for short and detached statements, as when the teacher points out the word *cart* on the tablet and names it for them. Here he may expect that they will pay such attention that they will recognise the word and name it five minutes afterwards. But he must not expect that they will attend to and remember a dozen strange words on the same occasion.

**586.** Pictures are a great aid to the exercise of non-voluntary attention, which shows the utility of having the reading books well illustrated. Whenever there is an illustration, the children's attention should be in every case **directed to the details of the picture** as a regular part of the lesson.

**587.** As the children advance in age and knowledge the attention falls gradually more and more under the control of the will; and as motives of duty also begin to make their strength felt, more sustained efforts of voluntary attention may be expected. But still the teacher must take great care to proportion his requirements to the age and ability of the children.

**588.** If the teacher has conducted his training skilfully according as the children have advanced, the pupils of the fifth and sixth classes will be able to bestow sustained attention throughout the whole of any reasonable lesson or explanation.

**589.** Great differences are observable among children as to the power of sustaining attention. Some can keep their minds fixed on one object or subject for a length of time, but find a difficulty in quickly changing from one subject to another. Others are easily turned aside—they shift their attention readily from one thing to another—but cannot dwell long on any. The former often get the name of being dull, and are sometimes **most unjustly blamed or scolded** for their slowness; yet they have generally a better type of intellect than the latter, who are flighty and shallow, though they are often credited with being smart and clever.

**590.** Teaching children of the two extreme types in classes tends to correct their respective defects: for they are continually influenced by the **will of the majority**—under the direction of the teacher—to make efforts, the one to keep the mind fixed, the other to change the attention readily from one subject to another.

**591.** There are some few who can concentrate

attention for a long time on one subject, and who can, when they wish, change with great facility and readiness from one subject to another. Such persons have the faculty of attention developed in the highest degree.

**592.** With the object of training the attention, the teacher should never give an order, ask a question, dictate a sum, or read a phrase for dictation, **more than once on the same occasion.** This will train the pupils to the habit of determinedly concentrating their attention on everything that is said to them—which of course is a most invaluable habit.

**593.** But while voluntary attention is to be expected in the advanced parts of the school, the teacher must never neglect the incentives to non-voluntary attention, even in the very highest classes. When about addressing a class, or the whole school, let him procure absolute silence in the first instance, till every eye is directed on him: then let his manner be impressive and his articulation perfectly distinct. All this catches the pupils through the two senses of seeing and hearing; and the voluntary attention they are expected to bestow is powerfully aided by the non-voluntary attention evoked by the manner and words of the teacher.

So also in using the black board, let the teacher give himself the habit of making his figures or diagrams heavy, decided, and distinct, which has the same effect on the mind through the eye as clear articulation has through the ear.

**594.** Non-voluntary attention is not confined to children. As a matter of fact, no person, child or adult, can keep the attention fixed for any very considerable time, unless he finds some interest in the subject: and where this interest exists voluntary attention is aided by non-voluntary attention. This further shows the necessity for making all **lessons interesting**, both for junior and senior classes.

578. Define attention. What does the mind do in attention?
579. Show the great importance of attention.
580. Show the effect of attention.
581. Define the two kinds of attention, and give examples of each.
582. Show that the effect is the same with both kinds of attention.
583. Effect of practice on the power of attending? Caution here regarding children!
584. Why cannot much voluntary attention be expected in young children? If a class of young children grow weary under explanation what ought to be done? Why?
585. Show how far voluntary attention may be expected from young children, and how far not.
586. Use of illustrations? What is to be done with lesson illustrations?
587. Show how and why voluntary attention develops as children advance. Caution to be observed?
588. Effect of training in voluntary attention by the time pupils have arrived in senior classes?
589. Illustrate the two chief types of mind as to attention. Which is the better of the two? Caution in treatment of the slow?
590. What is the effect of class-teaching in both types? Why this?
591. Describe the best mental type of all as to attention.
592. How is the teacher to act with the object of training the attention of the pupils? Effect of this?
593. How is the teacher to make use of non-voluntary attention in the general business of the school—as to oral directions—as to black board work?
594. What limit is there to voluntary attention with all people? Point out how non-voluntary attention acts in adults. Why should lessons be made interesting?

### 3. MEMORY.

**595.** If while an idea is before the mind, a second idea presents itself, the first disappears for the time, or in other words, passes from consciousness: yet it remains in the mind though hidden, and may be revived by **an accidental circumstance** or by **an effort of the will**.

**596.** When an idea which was formerly in the mind is reproduced, and when it is at the same time recognised as having been formerly an object of consciousness, this reproduction is called **memory**. Thus when I recall the face of a friend there are two distinct mental processes: (1) the calling up of the idea: (2) the recognition that it was in the mind before. This is memory, and I am said to remember.

**597.** Memory is developed at an early age; and as a separate faculty—i.e. as mere memory, unaccompanied and unaided by the higher power of judgment, it is believed to attain its greatest power at an age varying in

different individuals **from seven to ten or eleven.** After that it loses power, not so much on account of any degeneration in the faculty itself, as because the reasoning and reflective faculties then begin to gain strength, and the opening mind has thenceforth a continually increasing multitude of things to attend to.

**598.** Hence this is **the age for getting things by heart**, for learning all those subjects that depend much on mere verbal memory, as languages, arithmetical tables, pieces of poetry, grammatical and geographical lists and definitions, &c. What is then learned too is more likely to be retained, a thing everyone experiences in himself; for we all know that we remember what we learned in childhood far more tenaciously and distinctly than things learned later in life.

**599.** But even at this age the reasoning faculty is developing, and it is important to give it full play for growth. So the memory **must not be exercised to excess**, or it may engross too much of the mental activity and stunt the growth of the reasoning power.

**600.** When an idea, having entered the mind, passes from consciousness for the time, it tends to fade away gradually; and the longer the interval before it is again brought under notice the harder it is to revive it. If a sufficiently long interval elapses it may vanish never to be revived again. But if at first it be recalled at short intervals, every recall makes it easier to bring it under notice again, and gives it a more lasting hold on the memory.

**601.** The quality of the mind by which ideas once experienced are stored up and kept for future use is called **retentiveness.** The minds of different individuals vary greatly in respect to retentiveness. There are some who remember almost all things they hear and read; while others forget almost as fast as the ideas enter their minds. A person who keeps his ideas firmly and who can recall them readily whenever he wants them is said to have **a good memory.**

**602.** The memory is affected by many things, the

chief of which are the following :—(a.) **Exercise**; (b.) **Attention**; (c.) **Repetition**; (d.) **Time**; (e.) **Physical conditions**; (f.) **Association of ideas**. These will now be considered separately.

**603.** (a.) *Exercise.* It is a universal law that under ordinary healthy conditions any power or faculty is strengthened by **reasonable exercise**. And in this respect the faculties of the mind bear a striking analogy to the muscles of the body. Thus a blacksmith's arms become strong by continually wielding the hammer; and in like manner the senses, observation, memory, attention, &c. gain strength and precision by exercise.

**604.** So if a person have naturally a weak memory he may improve it by persistent practice; and one who is endowed with a good memory may make it still better by the same means.

The practice of getting oral tasks therefore is useful, not only for giving the children a knowledge of the several subjects, but also for strengthening their memory.

**605.** (b.) *Attention.* For the effect of attention on memory, refer to Section 2, page 300.

**606.** (c.) *Repetition.* The memory is greatly aided by repetition. Hence the utility of setting apart one day in the week for repetition of lessons. Hence also the use of Questions of Repetition (Par. 158.).

**607.** Repetition may often with great advantage take the form of writing. The pupils may be asked to write out in their own words the substance of a lesson or of some particular part of it. This has the double advantage that it is an exercise in composition as well as an aid to the memory.

**608.** The intervals must be carefully regulated. If they be too short the repetition loses much of its effect (Paragraph 611): if they be too long the original matter that is to be repeated may have more or less faded from the memory, which brings double work.

**609.** With the same object the teacher should

direct the pupils when getting their lessons at home, to repeat them with books closed three or four times at moderate intervals in the evening, and at least once in the morning.

**610. (d.) Time.** Time is an important factor in memory. It may be said that **what quickly comes quickly goes.** A child, having some other engagement, does not look at his home lessons in the evening, but waits till morning. He is then in a great hurry and reads them hastily. Shutting the book he runs them over in his mind once or twice as quickly as he can, and hastens to school. In this and all such cases, his mind may keep hold of the lessons till examination time; but after this they will quickly fade away; and of course the whole work of both pupil and master comes to little or nothing.

But if he read them carefully in the first instance the evening before, and rehearse them as directed in Paragraph 609, he will retain them not only for examination, but for many a day after; and the repetition day will fix them still more firmly in his memory.

**611.** To put the matter more plainly. Let a child read a lesson with a certain amount of care, and shutting the book let him go over it *four times* in quick succession. Let him now take another similar lesson and read with the same care; and with book closed let him rehearse it four times as before, but at intervals of an hour. He will find that this second lesson has taken a much firmer hold on his memory than the first.

**612.** It is the same with grown people in their studies. If a man scramble hastily through a certain portion of a subject immediately before examination, he may retain it long enough to serve the temporary purpose; but so far as permanent mental improvement is concerned, his time and labour are all but wasted, for scarcely a trace of what he has prepared will remain after a little time.

If instead of this, he go over the subject slowly, view every detail on all sides, and master it till it

becomes so familiar as to form as it were part of his mind : here he spends perhaps three times as long as in the former case. But if the work is slow it is sure, and his memory takes a firm and lasting hold of the subject.

**613.** So also in giving a lesson on any subject, let the teacher not attempt to cram too much into one half hour. He may indeed succeed in making the children grasp the whole lesson in a hasty superficial sort of way ; but they will soon forget it. If instead of this, he spread the same amount of matter over two or three lessons, give the pupils time to digest every new statement, and make them work out all details either by statement or slate-work, they will have got a hold of the subject that it will be very hard to loosen.

**614.** (*e*) *Physical Conditions.* It is impossible that the children can attend properly to a lesson if they are weary after a day's work ; or if they are inconveniently crowded in a gallery ; or if they are breathing impure air in a badly-ventilated room ; or in general, if they are suffering from any physical discomfort ; or in case of an individual child, if his health is not in good tone. And as the attention flags the memory grows feeble and the lesson is so far profitless (Paragraph 580).

**615.** (*f*) *Association of Ideas.* I have kept this last, though it is the most general of all the influences that affect the memory. Ideas run through the mind always conjoined with others—never singly. When two ideas often come together, or in immediate succession in the mind, they become as it were linked together, **so that one has a tendency to call up the other.** This is what is called *association of ideas.*

**616.** The oftener two ideas are presented together the stronger becomes the link of connexion, and the more likely it is that one will recall the other. But if they come together only once or twice, the connexion may be so weak that one may not suggest the other at all.

**617.** This principle of association explains a vast proportion of all mental phenomena, and is at the root of a great part of school teaching. For example, it is by association the children get off the arithmetical tables : "4 times 7, 28" is so often repeated that at last "4 times 7" instantly suggests 28 without any effort. So also "King John, Magna Charta, 1215, Runnymede," have so often come together, that it is, so to say, impossible to think of the one without thinking of the others. And by a little reflection the reader will easily see that the same principle runs through almost all the school subjects.

**618.** This explains the necessity of presenting lists of things **always in the same order** (Paragraph 455). If they are given in a different order at every lesson the bond of connexion between them is very feeble, and the child in recalling them is likely to omit some. But if they always follow in the same order, the association between each and those before and after, is strengthened by each repetition, till at last when the first is mentioned the rest follow in regular succession without any effort.

595. Show how an idea may remain in the mind though hidden. In what two ways may it be revived?

596. Define memory, and give example.

597. When is memory developed? When is mere memory strongest? What causes it to lose power?

598. What kind of intellectual work is best suited for childhood? Illustrate the strong memory of childhood.

599. What error must be avoided in exercising a child's memory? Why?

600. What happens to an idea hidden for a long time? What makes an idea more easy to revive? More difficult?

601. Define retentiveness. Show how people differ as to retentiveness. Denne a good memory.

602. Name the chief things that affect memory.

603. Effect of *exercise* on mental and bodily faculties. Examples.

604. How may the memory be strengthened? Two-fold use of tasks?

605. Effect of *repetition* on memory? Give examples.

607. Double use of repetition in writing?

608. Show how the intervals between repetitions must be regulated, and the reason of this. Two kinds of error here?

609. How should children get their home lessons?

610. Show how *time* affects memory, and give example.

611. Give special example as to how time affects memory?

612. Apply the principle to the studies of grown-up people, and illustrate by examples.

613. Apply the same principle to giving a lesson in school.

614. Show the various ways in which *physical conditions* affect the memory. Why do physical conditions affect memory?
615. How do ideas go through the mind as to isolation or otherwise? Define Association of Ideas.
616. What is the effect of two ideas coming together, or in immediate succession, in the mind? If they often come together? If seldom?
617. Give illustrations of association of ideas in teaching.
618. Explain why lists should always be presented in the same order. If they are not, what is the result?

#### 4. IMAGINATION.

**619.** Imagination is that process by which we rearrange ideas already existing in the mind so as to form new pictures or combinations which may never have really existed though they may resemble reality. Thus if children get as a written exercise to describe an imaginary walk, they use imagination; for they form new mental pictures and describe them, though the materials they employ—ideas of trees, streams, fields, rocks, &c.—already exist in their minds.

**620.** Imagination appears very early, and is constantly at work. All the pleasure of anticipated toys, holidays, excursions, &c., is the work of imagination. So also in listening to the teacher's description of foreign countries or strange animals or phenomena, the children must use the materials they have, and combine them so as to realise the teacher's description as best they can. But though imagination appears early it never attains its highest development till the age of manhood.

619. Define and illustrate imagination.

620. At what period does imagination appear? Illustrate its operation. When does imagination come to maturity?

#### 5. JUDGMENT AND REASONING.

**621.** When we compare two things with one another so as to determine the relation between them—whether they are the same or different, like or unlike, &c.; or when we weigh two courses of conduct so as to determine which is best to follow—such a process is called **judging**, and the resulting determination is called **a judgment**.

An idea is expressed by a word, as *a horse, a slate*. The simplest act of judgment—the comparison of two things—is expressed by a proposition, as *the horse is strong; this knife is better than that*.

**622.** Judgment in its simplest form begins very early; for we see a mere infant preferring one plaything to another, or deliberately determining whether it will walk this way or that. But it is of **slow growth**: it is very weak in childhood, and attains its full degree of strength and precision only in mature manhood. Hence the sciences, such as geometry, algebra, the scientific treatment of arithmetic, and so on, must be deferred till the pupils have advanced to the senior classes, when the reasoning power has attained sufficient strength.

Among the most important functions of the reasoning faculty are **Induction** and **Deduction**, which have been already treated of (page 88).

621. Define judgment or reasoning. How is an idea expressed? How a judgment.

622. At what period does judgment begin? Show by examples that this is so. How does it grow? When is it at maturity? Why must the sciences be deferred till the children are advanced? Mention two important functions of reasoning.

## II. THE EMOTIONS OR FEELINGS.

**623.** Though in dealing with the minds of children it is the Intellect that chiefly falls under the hands of the teacher; yet he has much also to do with the Feelings and the Will.

**624.** The feelings are chiefly concerned with pleasure and pain; though there are certain feelings that can scarcely be said to be attended with either. When a boy is proud of having worked out a hard sum, or is sorry for having displeased the teacher, these states of mind are emotions or feelings.

**625.** In regard to this department of the mind the functions of the teacher are **two-fold** :—

1. To deal with the feelings for their own sake—to foster and encourage those that tend to good, and to keep in check those that tend to evil.

2. To make use of the feelings as an instrument of teaching; for when taken advantage of in the right way they exert a powerful influence in forwarding the intellectual development of the children.

**626.** All emotions affect the body, some slightly or almost imperceptibly, some very powerfully. In many cases you can tell the emotion that passes through the mind by its bodily effects, as in case of grief, anger, fear, joy, &c.

**627.** The feelings are developed very early; and some make their appearance as soon as the child begins to notice objects around him; as for instance, the feeling of pleasure on seeing the mother; or the feeling of aversion for animals or things hurtful or disagreeable.

**628.** All feelings when in excess are injurious, and more so in children than in adults, for children are less able to control them.

**629.** The will has not much direct influence over the feelings; for a boy is *joyful* or *afraid* whether he will or not, if circumstances occur to make him so. But in an indirect way the will may tone them down, or prevent them going to excess, by raising up emotions tending in an opposite direction. Thus a tendency to triumph over a defeated antagonist may be in a great measure counteracted by a feeling of pity for his disappointment at missing the prize. Such feelings may be gently encouraged by the teacher; and this healthful exercise of the will on the part of the child will gain strength by practice.

Suppose a child begin to cry after being scolded or punished. Better leave him to himself till the fit passes. His crying and sobbing are not under the control of his will, and to punish him further for disobedience in not stopping when told is cruelty, and only makes matters worse. So with a sudden tendency

to laughter in the class: better to let it pass unnoticed, or look pleasantly on it—if it is right to do so—and it will soon wear itself out. But any effort to repress it by force or solemn command will only make it burst out more irresistibly; because laughter is often quite uncontrollable even by the will of grown people.

**630.** The feelings, as has been said (Par. 558), affect the intellect and the will in a greater or less degree. A child—or an adult—under strong emotions of fear, or grief, or joy, or anger, is quite unable to think or judge correctly, and acts according to the blind impulse of the moment. Thus, if a child has been put in terror of having his sum wrong, this very agitation will set him astray in spite of all efforts to be calm and collected; and the teacher who punishes a child for a wrong sum under such circumstances—on the score of carelessness—is guilty of great injustice and cruelty.

**631.** Those feelings that have to do with self—commonly called the **egoistic** or **selfish feelings**—make their appearance earliest. Such are fear, anger, desire of possession, greediness, love of superiority, love of praise, and so forth, which all originate in the instinct of self-preservation and self-interest. Some of these are legitimate and useful when not carried to excess; others are evil and must be repressed, as envy, hatred of those that injure, &c.

**632.** Almost all the early feelings of children are more or less egoistic, or mixed up with selfishness; but as the little ones advance, provided they are under good training and surrounded with good examples, feelings of this kind tend gradually to weaken and give place to others more generous and disinterested.

**633.** The **social feelings**, or those that have chiefly to do with other human beings, make their appearance at a later period; such as pity, attachment to relatives or companions, sympathy, gladness at the success of others, &c.

**634.** Later still is the appearance of what are called the **abstract sentiments**, which are more

refined states of feeling, and require more maturity of mind. Such are the love of truth, the feeling of duty, love of knowledge, the admiration and love of beauty—embodied in the poet's saying, "A thing of beauty is a joy for ever."

**635.** The teacher should endeavour by gentle and persuasive means to check the undue growth of egoistic feelings; and to encourage the better class of social feelings and sentiments. And the best way of doing this is by showing the example. For in this matter of educating the feelings, the proverb holds eminently true :—"Example is better than precept."

**636.** The teacher, as I have said, must make use of the feelings to further the school work. Here much judgment is needed to hit on the proper medium—to work on the feelings as far as may be necessary for his purpose, and to avoid exciting them in excess.

**637.** The feeling of gratification for having done their duty and for having earned the approbation of the teacher—the feeling of pleasure in study and exertion—these are the wholesomest and best stimulants to children to go through the work assigned to them, so far as school children can be brought under their influence.

**638.** *Fear and Shame.*—Fear and shame may be turned to reasonable account—fear of punishment or of the master's displeasure—shame for the exposure of failure in duty. But in many schools fear has by far too large a share in the government. The less a teacher plays on the fears of the children—the less fear has to do in spurring on the pupils—the better.

**639.** *Feeling of Power.*—The feeling of power—*of being able to do something not easy to do*, is a pleasurable and healthful emotion, so far as it is not excessive, and we all possess it in a greater or less degree. If the teacher duly foster this emotion in his pupils, they will feel a certain amount of pleasure in preparing their lessons and going through their work. And anyone must perceive the good effect of this in the future life of the child.

This feeling when excessive may stimulate to exertion beyond the strength, and the immature brain may be overstrained.

**640.** *The Pleasure of Activity.*—Children have a large fund of **activity**, both bodily and mental, which must get vent somehow; they find a positive pleasure in active employment of some kind, as long as it does not weary them. They cannot remain idle, and if they do not find anything better to employ them, they will do mischief. It is the teacher's business to turn this strong tendency into a useful channel—to have some profitable work always in their hands on which they can expend their energy.

**641.** *The Feeling of Emulation and Rivalry.*—This feeling makes its appearance at a very early age. It is **one of the most powerful of all stimulants to exertion**, and the teacher may encourage it within limits. But it must be kept in careful check, for it very easily runs to excess, and is then very baneful and dangerous. On the one hand it may lead to boasting, to too much self complacency, or to taunting or triumphing over a defeated adversary; and on the other hand it may engender feelings of envy, animosity, and hatred in the breast of him who is worsted in the contest.

**642.** In a very gentle and cautious way, the teacher may use it as an incentive to work, but he must be ever on the watch for the appearance of its worst phases. Moreover, he must so manage that the feeling be **diffused pretty generally** through the class: for if only two or three strive for praise, or place, or prize, while all the rest are hopeless and indifferent, it is useful only to those few—useless to the general body.

**643.** The safest plan is, as far as possible, to set up the child to be, as it were, a rival to himself—to excite a feeling of pleasure at the superiority of his state of progress or scholarship now, as compared with what it was at some past time.

**644.** *Love of Approbation and Praise.*—A reasonable

desire to gain the good opinion of others is a **laudable and healthful feeling**; it is more or less felt by all, and is the spring of many of our actions and courses of conduct. It appears in the earliest infancy; for the little one, having accomplished some infantile feat, will look at its mother for the smile of approbation. Although this feeling is mostly egoistic, it is good to encourage it. The judicious teacher will therefore bestow **reasonable praise** where it is deserved. But he must avoid praising indiscriminately and on all occasions, which will deprive it of all its value and force as a stimulus.

**645.** Some teachers are very grudging and narrow-minded in awarding praise, which is a fault on the other side. The child may be doing his best and may make a very fair attempt; but unless his manner of doing the work, or framing an answer square-in exactly with the teacher's preconceived notions, there is no mark of approval, but rather the reverse; and of course the child is disappointed and discouraged, and will probably not give himself the trouble of so much exertion next time.

**646.** If the love of approbation exist in an immoderate degree—a mere indiscriminate craving for praise whether deserved or not—it makes the child over vain of unworthy objects, such as clothes, toys, being thought to have done feats that he never did at all, &c.; and it will tend to make him look down with contempt on those whom he thinks inferior, or will make him envious of those who have legitimately earned praise.

**647.** Praise bestowed in a just measure is a **powerful stimulus to work**, not only to the pupil praised, but to all those who hear it. But if it appear to the general sense of the school to be either undeserved or much beyond the merits of the case, it is not only worthless but mischievous, for the pupils will question the justice of the master, or perhaps accuse him of partiality or favouritism.

623. What is the chief department of the mind the teacher has to deal with? What other departments has he to do with?
624. With what are the emotions or feelings chiefly concerned? Is this always so? Give illustrations of states of feeling.
625. What are the two functions of the teacher as regards the emotions?
626. Show how the feelings affect the body: illustrate.
627. When are the emotions developed? Show by example that this is the case.
628. Effect of feelings when in excess? Why worse in children than in adults?
629. How far are the feelings affected by the will? How can the will affect them indirectly? Illustrate by school examples the non-control of will over feelings.
630. Show how the feelings affect the intellect and the will; and give illustrations. Cautions necessary here.
631. What are the egoistic feelings? Give examples. How do they originate? How far ought the egoistic feelings be encouraged or repressed?
632. Of what kind generally are the early feelings of children? What is the effect of good training and examples on the egoistic feelings?
633. Describe and give examples of the social feelings. When do they appear?
634. Describe and give examples of the abstract sentiments. When are they developed?
635. What course should the teacher adopt with the three classes of feelings? Best way to educate the feelings?
636. In using the feelings to further the school work, what caution is necessary?
637. What are the most healthful feelings to make use of in the school?
638. How far should fear and shame be made use of? Cautions?
639. How far may the feeling of power be utilized? Use? Danger of its excess.
640. How does the pleasant feeling of activity manifest itself? If children get nothing useful to do, what is the result? How is the teacher to deal with this tendency to activity?
641. When does the feeling of emulation or rivalry appear? How does it stand as a stimulus? Show the evils of its excess.
642. Show how far the teacher may use it. How far must it extend? If it be confined to a few?
643. What is the safest plan as to rivalry?
644. How far is love of praise right? Show its extent. Show that it appears early. To which of the three classes of feelings does it belong? Should it be encouraged or discouraged? Cautions as to praise?
645. Point out some faults as to bestowing praise.
646. Evils of an excessive love of praise?
647. How far is love of praise a stimulus? Show that the teacher must be cautious and just in his praise. If not, what is the result?

### III. THE WILL.

- 648.** We are said to will, or to exert volition, when we **put forth active energy to carry out a determinate purpose**; as when I go to take a walk, or when a pupil mentally runs over the heads of his lessons for next day. This exertion of volition is **an act**; and the power that exerts itself is **the will**.
- 649.** The various inducements that influence us to

exert our will so as to produce certain results are called **motives**.

**650.** Some motives are good; others bad; and it is the duty of the teacher to encourage the former and discourage and check the latter, so far as he can discover them.

**651.** Some motives are **immediate**—more or less—as for instance when a child goes through an exercise to comply with the teacher's directions; or when he does some piece of work at home to earn the reward of a penny from his mother.

Other motives are in a greater or less degree **remote**, as when a pupil makes a long continued effort at work that he may be at the head of his class and win the prize at next annual examination; or when a student goes through years of study that he may attain to some profession.

**652.** The will is developed in some degree in infancy; for a child less than a year old will stretch out his hand to catch some pleasing object—which is an effort of will. But in childhood it is very weak, and incapable of being sustained. Moreover, it is exerted almost always for *immediate* motives. The older the child grows, the more he becomes capable of volition on account of remote motives, and the longer he is able to sustain an effort of will.

**653.** In respect to the influence of remote motives there are vast differences among adults. Some seem incapable of sustaining an effort of will, or of working for an object in the remote distance, though they may work for an immediate motive and work well enough while the spurt lasts. You will see a young man beginning to learn French, Latin, science, a musical instrument, &c., but getting tired of it and giving it up after a little vigorous effort—he begins everything, and never finishes anything. This is a most **unfavourable type** of intellectual character. Others there are who once they begin a thing stick to their purpose doggedly till they conquer the difficulties: sometimes we say

that people of this kind have an **iron will**: and it may be almost said that nothing that they take in hand is impossible to them.

**654.** It is the teacher's business to discourage flightiness—to encourage children to persevere in any good purpose they take in hands. **Perseverance** is one of the chief engines of success in life: and it is a quality that may be greatly strengthened—whether in child or adult—by **exercise and encouragement**.

648. Define the will and give example.

649. Define motives.

650. Two kinds of motives? How is the teacher to act in regard to each kind?

651. Define *immediate* and *remote* motives and give examples.

652. When does the will begin to be developed? Give example of early development of the will. For what kind of motives is it exerted in childhood? What degree of strength has the will in childhood?

653. Show the differences of will as to remote motives in adults. Give example of unsavourable type of intellectual character as regards the power of will. Give example of the reverse type.

654. In what manner should a teacher cultivate the will in children? What should he encourage and what discourage? Use of perseverance? How may perseverance be strengthened?

## CHAPTER XII.

### TECHNICAL AND INDUSTRIAL INSTRUCTION.

#### 1. BRANCHES TAUGHT IN NATIONAL SCHOOLS.

**655.** There has been, for some years past, a strong movement all through Europe and America in favour of Technical and Industrial Instruction in Schools. People are beginning to feel that the hands need to be educated as well as the head; and it is now very generally recognised that all children—boys and girls—should be taught, from infancy upwards, to use their hands at some sort of work suitable to age and sex.

**656.** The Commissioners of National Education in Ireland have participated prominently in this great

movement. They have introduced various industrial branches into the National Schools, sanctioning and encouraging some, and making others obligatory. In all these branches the pupils may earn results' fees for the teachers, for ascertained proficiency; and in case of some, a yearly salary is paid to the teacher, along with results' fees. (For amounts of fees, see Board's Rules, "Results' fees, Scales," &c., in Index.)

It may be convenient to give here, at one view, an outline of all the arrangements made by the Commissioners, for Technical and Industrial instruction.

Kindergarten has been already dealt with in Chapter X., p. 283. A Kindergarten Time-table, which is not given in the chapter referred to, will be found at page 330.

**657.** In all the training colleges Drawing is taught by special teachers to the Queen's scholars (or students in training as teachers), both male and female. In the practising national schools connected with the training colleges the subject is obligatory, *i.e.* it must be taught to all pupils above second class: in other national schools it is voluntary. It may be taught by the teacher of the school if he has a certificate of qualification; and results' fees are paid for passes in it in all classes except the two lowest (first and second).

**658.** The Albert National Agricultural Training Institution at Glasnevin, Dublin, is maintained to supply instruction: (*a*) in the science and practice of agriculture to the sons of farmers, to national school teachers, and others; (*b*) in the most improved systems of dairying to young women, daughters of the agricultural classes. (For details see Board's Rules: "Agriculture," in Index.)

The Munster Model Agricultural and Dairy National School, near Cork, is maintained to afford instruction in agriculture to the sons of farmers and others, and in dairying to young women. (For details see Rules: "Munster Model Agricultural School," in Index.)

The Queen's scholars of the male training colleges

receive instruction in agriculture. With the intention of diffusing correct ideas in dairying, the female Queen's scholars of the Marlborough-street Training College are taught how to make butter—they make it with their own hands—according to the most improved methods.

There are "Agricultural National Schools" through the country, *i.e.* National Schools with farms or gardens attached, for the instruction of the pupils—fourth class and above—in the theory and practice of agriculture and gardening. Besides results' fees, there are special payments for well-managed school farms, and for well-managed school gardens. (For details see Rules: "Agricultural Schools," in Index.)

Agriculture (theory) must be taught to all boys of fourth and higher classes in all National Schools, except those in large towns, where it is optional: it is optional for girls of all National Schools.

**659.** The Queen's scholars of the female training colleges are taught practical cookery.

**660.** These Queen's scholars are also taught plain needlework, dressmaking, and sewing machine, by special teachers. In the Marlborough-street Training College the female Queen's scholars are, in addition, taught art needlework.

**661.** In all National Schools, where female teachers or workmistresses are employed, instruction in needle-work and knitting must be given to every girl in second class and above. Under certain conditions every girl in sixth class must give her school-time mainly to industrial work. (See p. 323 for further information on this.)

**662.** The following three subjects may be taught in National Schools to girls of fifth class and above, and are paid for as Extra Branches, with 5s. results' fee; provided the teachers give evidence of their competency satisfactory to the Commissioners:—

1. Practical Cookery.
2. Dairying, provided there is attached to the school a dairy having command of a sufficient supply of milk, and proper appliances.

3. Management of poultry, provided there is a poultry yard attached to the school, available for, and made use of in, the practical instruction of the pupils.

**663.** Domestic Economy and Hygiene are recognised and paid for as extra subjects (results' fee, 5s.) when taught to girls of fifth class and above: these subjects, though not commonly calling for the use of the hands when taught in schools, have an intimate connexion with industrial instruction.

**664.** In National Schools having "Special Industrial Departments," an industrial teacher is paid a salary by the Board for the instruction and training of externs (*i.e.* of those who are not pupils of the school) as well as of female pupils who have passed through the sixth (highest) class in embroidery and other advanced kinds of needlework or other approved branches of industrial instruction for females. (See Rules: "Industrial Instruction: special departments for embroidery," in Index.)

**665.** The male Queen's scholars of the "Marlborough-street Training College," and those also of the Church of Ireland Training College, are taught Handicraft: at the end of their Course they are examined for Certificates. Handicraft may be taught to boys of fifth and sixth classes of National Schools by teachers who have gained Certificates of Competency: for every boy who passes, a results' fee of 5s. is paid. (For the Programmes for teachers and pupils and for other information on this subject, see the Board's Rules, "Handicraft" in Index.)

**666.** In localities where managers of schools arrange with skilled persons to give instruction in Spinning, Weaving, and other Cottage industries (in suitable rooms or in separate buildings in close proximity to the National School) to advanced pupils of the schools or groups of schools, results' fees may be paid for fifth and sixth class pupils and a special salary may be awarded to the teacher of the industry, on condition that the requisite appliances are provided. The indus-

trial department may also be open to young persons who have already left school, but may desire to attend the Industrial Classes (but for these no results' fees will be paid).

**667.** The Commissioners have a dépôt at the central establishment in Dublin for the sale of Kindergarten requisites, of tools, and of materials for needlework, knitting, and embroidery—all of the best quality. These are for sale to, and for use in, National Schools only: and parcels are forwarded to schools in every part of Ireland. The establishment of this dépôt was a most important step for the advancement of technical and industrial education. For a full enumeration of the various articles kept for sale here, with prices, see the Board's published Lists of Requisites.

**668.** Instruction in most of the forementioned technical and industrial branches is given in the Marlborough-street Training College and in the Central National Model Schools, Dublin, where classes may be seen every day in full work.

655. What is now the general conviction as regards Industrial instruction in schools?

656. State broadly what the Irish N. E. Commissioners have done.

657. What are the arrangements for instruction in Drawing?

658. Give the objects for which the Albert Agricultural Training Institution is maintained? Give the same for the Munster Model Agricultural and Dairy National School. Give the arrangements for Agricultural teaching as regards (1) Queen's scholars; (2) as regards pupils of National Schools.

659. What are the arrangements for Cookery instruction for Queen's scholars?

660 and 661. Provision for Plain and Art Needlework instruction for Queen's scholars. Arrangements for Needlework instruction in schools and colleges.—

662. Give the arrangements for the teaching of the following branches:—Cookery, Dairying, Management of Poultry.

663. The same for Domestic Economy and Hygiene.

664. The arrangements for schools having "Special Industrial Departments."

665. Provisions for Handicraft instruction in colleges and schools.

666. What are the arrangements for Spinning, Weaving, and other Cottage industries?

667. Arrangements for the sale of Industrial requisites to schools.

## 2. BOARD'S INDUSTRIAL PROGRAMME FOR GIRLS.

**669.** The following two very important rules were introduced by the Commissioners in 1889. They are obligatory in all National Schools where female teachers

or workmistresses are employed, unless, on application of any manager, the Board may, for special reasons, dispense with either or both.

**670.** FIRST RULE.—*Every girl in classes in which needlework is required to be taught shall be under instruction in needlework for at least one hour on each of the five school-days of the week.*

**671.** SECOND RULE.—*In every National School whose Results' year commences on or after the 1st August, 1889, every girl who passes the second stage of the Fifth Class shall devote the remainder of her school attendance chief'y to industrial work.*

#### RESULTS' FEES, FIRST AND SECOND YEARS.

Literary, 5s. 6d.	Reading (which should include Text Books on suitable industrial subjects, and on Domestic Economy, with knowledge of the subject matter), . . .	s. d. 2 6 a year.
		English Composition (including Letter-Writing on various subjects, which should embrace Geography, Grammar, &c.); skill in Penmanship to be taken into account, . . .
Industrial, 9s.	Plain Needlework (in its various developments, including Shirt-making). This must be one of the three industrial subjects to be taken up daily in each of the two years of a Sixth Class Course, . . .	3 0 ditto.
		Special Industries—Classes A and B (as in next par.), any two of which can carry fees in the same year, . . .
Total, 14s. 6d.		3 0 ditto. 3 0 ditto. 3 0 ditto.

#### INDUSTRIAL PROGRAMME.

**672.** CLASS A.—1. Dress-making (plain); underskirt-making. 2. Fine underclothing; baby clothes. 3. Knitting and crocheting of jerseys, caps, wraps, **vests**, petticoats, socks, stockings, gloves, slippers, and similar articles. 4. Good repairing of garments, hose, house and table linen, &c., such as darning (damask and invisible), fine-drawing, re-lining, re-binding, re-fitting, re-buttonholing, turning; also plain ingrain marking. 5. Cloth-work, viz.:—Girls' jackets, children's cloaks and newmarkets,

little boys' suits, braiding, tailor-buttonholing. 6. The washing, carding, spinning, and weaving of wool. 7. Treatment of flax and weaving of linen.

CLASS B.—1. Lace-making—Youghal, Limerick, Carrickmacross, Inishmacsaint, or other recognised kind. 2. Mountmellick work—Sprigging (on handkerchiefs, &c.), ornamental marking of linen. 3. Art needlework, including embroidery from Celtic patterns. 4. Gold and silver lace work—Ecclesiastical embroidery. 5. Hangings—Furniture embroidery. 6. Glove-making. 7. Artificial flower-making. 8. Basket-making—Indian matting, straw matting; straw chairs; straw plaiting, &c.; other articles produced from straw, or wicker. 9. Other kinds of cottage industries, such as wood-carving, net-mending, where local or suitable.

**673.** It will be seen that where this Programme is carried out three industrial branches are to be taught, of which plain needlework (including shirt-making) must be one: the other two may be selected from the "Industrial Programme." This Industrial Programme, under two classes, A and B, includes every possible form of school or cottage industry. It has been made so extensive, evidently with the intention of suiting all the various needs and circumstances of different localities.

**674.** The new Programme has been taken up in numbers of National Schools, and among others, in the Central Model School, Dublin. In the beginning the difficulty here was to get materials—the same difficulty that is incidental to all industrial teaching in schools. If the girls could be got to bring the materials for their own dresses there would be an ample supply. But both parents and pupils—though having full faith in the school for its literary work—no doubt distrusted it in this new departure, which was natural enough: they feared their dresses might be spoiled. The teachers were very careful, however; and at last it began to be found out that, though the articles were all made by the girls, they were well made—not an article spoiled. The parents gradually lost their fears, and gained confidence as time went on: and as things now stand, materials for dress-making, knitting, and plain needlework, are brought in very

freely. The opening difficulty has been found to be much less serious than was at first anticipated; and this, no doubt, will be the experience of the manager and teacher of every school where the new Programme is introduced.

The girls of classes below sixth are also encouraged to have their dresses made by the sixth class pupils; and, according as the people gain still greater confidence, a large supply will, it is expected, come from this source.

A visitor may now, at any time, see a number of the pupils wearing articles of dress made by themselves—one of the most pleasing sights a person could wish to see in a school.

**675.** The Commissioners do not prescribe any particular system of dress-cutting or measuring: the one thing insisted on is that dress-making shall be well taught. In the Central Model School the "scientific system of dress-cutting" is adopted. In this, as well as in every other system, two things have to be done—at least in schools—before the dress is cut out. First, measuring; second, drawing out in pencil—or "drafting," as it is called—the pattern on paper from the measures. The girls are taught to draft before they are taught to measure, because it is much easier. In the "Scale" or chart used in the scientific system (which is on the Board's List, price 2s. 6d.), there is a set of "measures for practising"—intended entirely for teaching purposes. The teacher first gives a collective lesson by drafting the pattern from these measures with chalk on a blackboard before the whole class. Then the girls take down the same measures from dictation, after which each—using pencil and paper—drafts the pattern under the teacher's eye. Whenever the actual measures for a dress are taken, it is usual to utilise them in like manner for a collective lesson. This practice is continued till drafting is mastered.

**676.** For some time after admission to sixth class the girls do not measure; they merely look on while

the others are doing it. But when they are well able to draft they are set to measure; and it takes a considerable time to learn to do it correctly.

When the teacher is satisfied that a correct draft has been made, after the measures for a dress have been taken, the material is cut according to pattern. The measuring, drafting, and cutting-out, are all done by the advanced girls, in presence of the teacher.

**677.** The following specimen Time Tables for Sixth Class may prove useful to teachers who have adopted the alternative Industrial Programme. They may suit some schools either as they stand, or with modifications. Even if they do not suit, they may assist the teacher by giving an idea of how the work of the sixth class may be distributed throughout the day. A partial Time Table of this kind should, of course, be so arranged that the work of the sixth class will fit in with the work of the rest of the school—a matter of no great difficulty :—

#### No. 1.

10-10.30.	Religious Instruction.
10.30-11.	{ Reading, &c.
11-11.30.	
11.30-12.10.	First Industrial Subject (to be named).
12.10-12.55.	Second Industrial Subject (to be named).
12.55-1.25.	Playground.
1.25-1.55.	{ Composition, &c.
1.55-2.25.	
2.25-3.5.	Plain Needlework.
3.5-3.30.	Reading, &c.

#### No. 2.

10-10.30.	Religious Instruction.
10.30-11.	Home Lessons.
11-11.30.	Reading, &c.
11.30-12.10.	First Industrial Subject (to be named).
12.10-12.55.	Second Industrial Subject (to be named).
12.55-1.25.	Playground.
1.25-1.55.	{ Composition, including Letter-Writing in
1.55-2.25.	Geography, Grammar, &c.; Accounts,
	Bills of Parcels, &c.
2.25-3.5.	Plain Needlework.
3.5-3.30.	Reading, &c.

669, 670, 671. What are the two Rules about Industrial Education, introduced in 1889? What are the exemptions? As regards sixth-class girls, give (1) Literary Programme; (2) Industrial Programme.

672. Enumerate the Industrial branches included under classes A and B.

673. Why has the Industrial Programme been made so extensive?

674. What is the initial difficulty in carrying out the New Industrial Programme for sixth class? How may it be overcome? State the chief sources supply of materials.

675. In a school, before a dress is cut out, what two things have to be done? Which of the two are girls taught first, and why? Show how drafting may be taught collectively. What should be done after the collective lesson?

676. Describe the process of teaching girls how to measure.

677. Write out a Time Table for sixth class in a school adopting the Industrial Programme.

## APPENDIX.

## NOTE ON NO. 7 TIME TABLE, p. 48.

The hour devoted to Needlework may be divided into two separate half hours for either division, or both, if the teacher should find it a more convenient arrangement.

The following modification of No. 2 Time Table, page 42, makes provision for the teaching of Agriculture. This subject should also be prepared as a Home Lesson:—

TIME,		JUNIOR DIVISION (1st, 2nd, and 3rd).	SENIOR DIVISION (4th, 5th, and 6th).		
10	10.30	Religious Instruction.			
10.30	11.5	Copying.	D	Home Lessons.	F
11.5	11.35	Home Lessons.	F	Writing.	D
11.35	12.10	Arithmetic. (Third Class Geo., M., Tu.)	D	Arithmetic. (Reading, Wed.)	F
12.10	12.40	Reading.	F	Dictation.	D
12.40	1.10	Play.			
1.10	1.40	Reading. (Third Class Grammar, Wed., Th., Fri.)	D	Grammar. (Reading, Mon.)	F
1.40	2.15	Arithmetic.	F	Arithmetic.	D
2.15	2.55	Writing.	D	Reading.	F
2.55	3.30	Reading.	F	Geography, M., Tu., Wed. Agriculture, Th., Fr.	G

## KINDERGARTEN TIME TABLE FOR A SMALL INFANTS-SCHOOL.

This (with a trifling modification to suit peculiar circumstances) is the Time Table in use in the Branch Infants-School of the Central Model School, Dublin: one teacher and one monitor: one apartment only, with desks, gallery, and floor circles. This Time Table is given as a specimen. If it does not answer any particular school as it stands, it may be modified to suit the circumstances.

TIME.		INFANTS.	FIRST CLASS.	SECOND CLASS.
10	10.30	Religious Instruction.		
10.30	11	Reading and Spelling.	G Writing.	D Home Lessons. F
11	11.30	Writing.	D Home Lessons.	F Copying, M. Tu. Arith. W. Th. F.
11.30	12	Repeat Poetry.	F Arithmetic. Object Less. Fr.	G Writing.
12	12.30	Kindergarten.	G Kindergarten.	D Reading.
12.30	1	Playground.		
1	1.30	Read. & Spell. Object Less. Tu.	G Reading and Spelling.	F Kindergarten.
1.30	2	Kindergarten.	D Arithmetic.	G Arith. Mon. Tu. Read. W. Th. F.
Singing and Drill, Thursday.				
2	2.10	Playground.		
2.10	2.35	Reading and Spelling.	F Copying.	D Read. Mon. Tu. Arith. W. Th. F.
2.35	3	Tables.	G Reading and Spelling.	F Arith. Mon. Tu. Copying, Wed. Thurs. Frt.

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